## 列 表

SEQUENCING LISTING

<110> KYOWA HAKKO KOGYO CO., LTD

<111> THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION INTO CARDIOMYOCYTES

<130> 11217W03

<140>

<141>

<150> H11-372826

<151> 1999-12-28

<150> PCT-JP00-01148

<151> 2000-02-28

<150> PCT-JP00-07741

<151> 2000-11-02

<160>80

<170> PatentIn Ver.2.0

<210> 1

<211> 411

<212> PRT

<213> Homo sapiens

<400> 1

Met Arg Ala His Pro Gly Gly Gly Arg Cys Cys Pro Glu Gln Glu Glu

10 5

Gly Glu Ser Ala Ala Gly Gly Ser Gly Ala Gly Gly Asp Ser Ala Ile 30 20

25

Glu Gln Gly Gln Gly Ser Ala Leu Ala Pro Ser Pro Val Ser Gly 45 40

	50		Glu			55					60				
Lys 65	Gln	Ala	Gly	Arg	Gly 70	Gly	Gly	Val	Cys	Gly 75	Arg	Gly	Arg	Gly	Arg 80
Gly	Arg	Gly	Arg	Gly 85	Arg	Gly	Arg	Gly	Arg 90	Gly	Arg	Gly	Arg	Gly 95	Arg
Pro	Pro	Ser	Gly 100	Gly	Ser	Gly	Leu	Gly 105	Gly		Gly	Gly	Gly 110	Cys	Gly
		115			•		120					125			
	Pro 130	Ser	Gly	Ser	Ala	Gly 135	Pro	Gly	Pro	Arg	Gly 140	Pro	Arg	Ala	Thr
Glu 145	Ser		Lys		150					155					160
Lys			Val	165					170					175	
			Phe 180					185					190		
		195					200				•	205			
	210		Lys			215					220				
225					230					235	i				Asn 240
			Pro	245	•				250	)				255	ı
			260	)				265	5				270	) .	Gln
		275	ó				280	}				285	•		ı Gln
Gly	7 Let 290		r Ala	a Ser	Asp	Va. 299		Glu	ı Glı	n Ile	300		s Thi	Met	Glu
Let 30	ı Pro	o Ly	s Gly	z Lei	ı Glr 310		y Vai	l Gl	y Pr	o Gl; 31		r Ası	n Ası	o Glu	1 Thr 320
Let	ı Le	u Se	r Ala	a Val	l Ala		r Ala	a Le	u Hi 33		r Sei	r Se	r Ala	a Pro 33	o Ile 5

Thr	Gly	Gln	Val 340	Ser	Ala	Ala	Val	Glu 345	Lys	Asn	Pro	Ala	Val 350	Trp	Leu	
Asn	Thr	Ser 355	Gln	Pro	Leu	Cys	Lys 360	Ala	Phe	Ile	Val	Thr 365	Asp	Glu	Asp	
	Arg 370	Lys	Gln	Glu	Glu	Arg 375	Val	Gln	Gln	Val	Arg 380	Lys	Lys	Leu	Glu	
Glu 385	Ala	Leu	Met	Ala	Asp 390	Ile	Leu	Ser	Arg	Ala 395	Ala	Asp	Thr	Glu	Glu 400	
Met	Asp	Ile	Glu	Met 405	Asp	Ser	Gly	Asp	Glu 410	Ala						
<210	> 2															
<211	> 12	233														
<212	2> D1	ĪΑ														
<213	3> Hc		sapie	ens				•						•		
<220	)>															
	> CI															
		1)	(1236	3)												
<400														ee - ee	ero er	48
														gag		40
	Arg	Ala	His		Gly	Gly	GIY	Arg		Uys	Pro	GIU	GIII	Glu	uıu	
1		,		5					10				+	15	2+2	96
ggg	gag	agt	gcg	gcg	ggc	ggc	agc	ggc	gct	ggc	ggc	gac	000	gcc	Ila	90
Gly	Glu	Ser		Ala	Gly	Gly	Ser			ату	иту	ASP		Ala	116	
			20					25					30		wa.	144
														agc		144
Glu	Gln		Gly	GIn	Gly	Ser			Ala	. Pro	5er			Ser	uly	
		35					40			-4		45		4 400	***	109
gtg	cgc	agg	gaa	ggc	gct	cgg	ggc	ggc	ggo	cgt	, ggc	cgg	. 555	. Ggg	tgg	192
Val			Glu	Gly	Ala			Gly	Gly	Arg			GIY	Alg	Trp	
	. 50					55					60					940
aag	cag	gcg	ggc	cgg	ggc	ggc	ggc	gto	tgt:	ggo	cgt	ggo	cgs	ggg	cgg	240
Lys	Gln	Ala	. Gly	Arg			Gly	Va)	Суя			; G13	Are	g Gly	Arg	•
65					70					75					80	900
															cgt	288
Gly	Arg	Gly	Arg	Gly	Arg	Gly	Arg	Gly			7 Arg	g Gly	/ Arg		Arg	•
				S <sub>z</sub>	i				90	)				95	)	

	ccg									_						336
Pro	Pro	Ser		Gly	Ser	Gly	Leu	-	Gly	Asp	Giy	Gly	-	Cys	Gly	
			100					105					110			
	ggc							_								384
Gly	Gly		Ser	Gly	Gly	Gly		Ala	Pro	Arg	Arg		Pro	Val	Pro	
		115					120			•		125				
ttc	ccg	tcg	ggg	agc	gcg	ggg	ccg	ggg	ccc	agg	gga	ccc	cgg	gcc	acg	432
Phe	Pro	Ser	Gly	Ser	Ala		Pro	Gly	Pro	Arg		Pro	Arg	Ala	Thr	
	130					135					140					
gag	agc	ggg	aag	agg	atg	gat	tgc	ccg	gcc	ctc	ccc	ccc	gga	tgg	aag	480
	Ser	Gly	Lys	Arg		Asp	Cys	Pro	Ala	Leu	Pro	Pro	Gly	$\mathtt{Trp}$	Lys	
145					150					155					160	
aag	gag	gaa	gtg	atc	cga	aaa	tct	ggg	cta	agt	gct	ggc	aag	agc	gat	528
Lys	Glu	Glu	Val	Ile	Arg	Lys	Ser	Gly	Leu	Ser	Ala	Gly	Lys	Ser	Asp	
				165					170					175		
gtc	tac	tac	ttc	agt	cca	agt	ggt	aag	aag	ttc	aga	agc	aag	$\operatorname{cct}$	cag	576
Val	Tyr	Tyr	Phe	Ser	Pro	Ser	Gly	Lys	Lys	Phe	Arg	Ser	Lys	Pro	Gln	
			180					185					190			
ttg	gca	agg	tac	ctg	gga	aat	act	gtt	gat	ctc	agc	agt	ttt	gac	ttc	624
Leu	Ala	Arg	Tyr	Leu	Gly	Asn	Thr	Val	Asp	Leu	Ser	Ser	Phe	Asp	Phe	
		195					200					205				
aga	act	gga	aag	atg	atg	cct	agt	aaa	tta	cag	aag	aac	aaa	cag	aga	672
Arg	Thr	Gly	Lys	Met	Met	Pro	Ser	Lys	Leu	Gln	Lys	Asn	Lys	Gln	Arg	
	210					215					220					
$\operatorname{ctg}$	cga	aac	gat	cct	ctc	aat	caa	aat	aag	ggt	aaa	cca	gac	ttg	aat	720
Leu	Arg	Asn	Asp	Pro	Leu	Asn	Gln	Asn	Lys	Gly	Lys	Pro	Asp	Leu	Asn	
225	•				230					235					240	
aca	aca	ttg	cca	$\operatorname{att}$	aga	caa	aca	gca	tca	att	ttc	aaa	caa	ccg	gta	768
Thr	Thr	Leu	Pro	Ile	Arg	Gln	Thr	Ala	Ser	I1e	Phe	Lys	Gln	Pro	Val	
				245					250					255		
acc	aaa	gtc	aca	aat	cat	cct	agt	aat	aaa	gtg	aaa	tca	gac	cca	caa	816
	Lys															
			260					265			•		270			
cga	atg	aat		cag	cca	cgt	cag		ttc	tgg	gag	aag		cta	caa	864
	Met															- ••
		275			-	Ţ	280			1		285	0		- <del></del>	

gga	ctt	agt	gca	tca	gat	gta	aca	gaa	caa	att	ata	aaa	acc	atg	gaa	912
Gly	Leu	Ser	Ala	Ser	Asp	Val	Thr	Glu	Gln	Ile	Ιle	Lys	Thr	Met	Glu	
	290					295					300					
cta	ccc	aaa	ggt	ctt	caa	gga	gtt	ggt	cca	ggt	agc	aat	gat	gag	acc	960
Leu	Pro	Lys	Gly	Leu	Gln	Gly	Val	Gly	Pro	Gly	$\mathtt{Ser}$	Asn	Asp	Glu	Thr	
305					310					315			٠ ه		320	•
ctt	tta	tct	gct	gtt	gcc	agt	gct	ttg	cac	aca	agc	tct	gcg.	cca	atc	1008
Leu	Leu	Ser	Ala	Val	Ala	Ser	Ala	Leu	His	Thr	Ser	Ser	Ala	${\tt Pro}$	Ile	
				325					330					335		
aca	ggg	caa	gtc	tcc	gct	gct	gtg	gaa	aag	aac	cct	gct	gtt	tgg	ctt	1056
Thr	Gly	Gln	Val	Ser	Ala	Ala	Val	Glu	Lys	Asn	${\tt Pro}$	Ala	Val	$\operatorname{Trp}$	Leu	
			340					345					350			
aac	aca	tct	caa	ccc	ctc	tgc	aaa	gct	ttt	att	gtc	aca	gat	gaa	gac	1104
Asn	Thr	Ser	Gln	${\tt Pro}$	Leu	Cys	Lys	Ala	Phe	Ile	Va1	Thr	Asp	Glu	Asp	
		355					360					365				
atc	agg	aaa	cag	gaa	gag	cga	gta	cag	caa	gta	cgc	aag	aaa	ttg	gaa	1152
Ile	Arg	Lys	Gln	Glu	Glu	Arg	Val	Gln	Gln	Val	$\operatorname{Arg}$	Lys	Lys	Leu	Glu	
	370					375					380					
gaa	gca	$\operatorname{ctg}$	atg	gca	gac	atc	ttg	tcg	cga	gct	gct	gat	aca	gaa	gag	1200
Glu	Ala	Leu	Met	Ala	Asp	Ile	Leu	${\tt Ser}$	${\tt Arg}$	Ala	Ala	Asp	Thr	Glu	Glu	
385					390					395		•			400	
atg	gat	${\tt att}$	gaa	atg	gac	agt	gga	gat	gaa	gcc						1233
Met	Asp	Ile	Glu	Met	Asp	Ser	Gly	${\tt Asp}$	$\operatorname{Glu}$	${\tt Ala}$						
				405		•			410							
<210	)> 3															
<211	1> 19	96		•												
<212	2> PF	RT														
<213	3> Ho	omo s	sapi	ens												
<400	)> 3									-						
Met	Arg	Thr	Leu	Ala	Cys	Leu	Leu	Leu	Leu	Gly	Çys	Gly	Tyr	Leu	Ala	
1				5					10					15		
His	Val	Leu	Ala	Glu	Glu	Ala	Glu	Ile	Pro	Arg	Glu	Val	Ile	Glu	Arg	
			20					25					30			
Leu	Ala	Arg	Ser	Gln	Ile	His	Ser	Ile	Arg	Asp	Leu	Gln	Arg	Leu	Leu	
		35		•			40					45				
Glu	Ile	Asp	Ser	Val	Gly	Ser	G1u	Asp	Ser	Leu	Asp	Thr	Ser	Leu	Arg	

	5 <b>0</b>					55					60					
Ala 65	His	Gly	Val	His	Ala 70	Thr	Lys	His	Val	Pro 75	Glu	Lys	Arg	Pro	Leu 80	
Pro	Ile	Arg	Arg	Lys 85	Arg	Ser	Ile	Glu	Glu 90	Ala	Val	Pro	Ala	Va.1 95	Cys	
Lys	Thr	Arg	Thr 100	Val	Ile	Tyr	Glu	Ile 105	Pro	Arg	Ser	Gln	Val 110	Asp	Pro	
Thr	Ser	Ala 115	Asn	Phe	Leu	Ile	Trp 120	Pro	Pro	Cys	Val	Glu 125	Val	Lys	Arg	
Cys	Thr 130	61y	Cys	Cys	Asn	Thr 135	Ser	Ser	Val	Lys	Cys 140	Gln	Pro	Ser	Arg	
Val 145	His	His	Arg	Ser	Val 150	Lys	Val	Ala	Lys	Val 155	Glu	Tyr	Val	Arg	Lys 160	-
	Pro	Lys	Leu	Lys 165	Glu	Val	Gln	Val	Arg 170	Leu	Glu	Glu	His	Leu 175	Glu	
Cys	Ala	Cys	Ala 180	Thr	Thr	Ser	Leu	Asn 185	Pro	Asp	Tyr	Arg	Glu 190	Glu	Asp	
Thr	Asp	Val 195	Arg													
<210	)> 4															
<211	L> 58	38														
<212	2> D1	ΝA														
			sapi	ens												
<220		70														
	1> CI 3> (		(591	)										٠		
	0> 4	. / • •	(001	,												
		acc	ttg	gct	tgc	ctg	ctg	ctc	ctc	ggc	tgc	gga	tac	ctc	gcc	48
			Leu													
1			:	5					10					15		,
cat	gtt	ctg	gcc	gag	gaa	gcc	gag	atc	ccc	cgc	gag	gtg	atc	gag	agg	96
His	Val	Leu	Ala	Glu	Glu	Ala	Glu	He	Pro	Arg	Glu	Val			Arg	
			20					25					30			
															ctg	144
Leu	Ala			Gln	Ile	His			Arg	Asp	Leu			Leu	Leu	,
		35					40					45				

00-12-27; 5:41PM; NGB PATENT DEPT

gag	ata	gac	tcc	gta	ggg	agt	gag	gat	tct	ttg	gac	acc	agç	ctg	aga	192
Glu	Ile	Asp	Ser	Val	Gly	Ser	Glu	Asp	Ser	Leu	Asp	Thr	Ser	Leu	Arg	
	50					55					60					
gct	cac	ggg	gtc	cac	gcc	act	aag	cat	gtg	ccc	gag	aag	cgg	ccc	ctg	240
Ala	His	Gly	Val	His	Ala	Thr	Lys	His	Val	Pro	Glu	Lys	Arg	Pro	Leu	
65					70					75					80	
ссс	att	cgg	agg	aag	aga	agc	atc	gag	gaa	gct.	gtc	ccc	gct	gtc	tgc	288
Pro	Ile	Arg	Arg	Lys	Arg	Ser	He	Glu	Glu	Ala	Val	Pro	Ala	Val	Cys	
				85					90					95		
aag	acc	agg	acg	gtc	att	tac	gag	att	cct	cgg	agt	cag	gtc	gac	ccc	336
Lys	Thr	Arg	Thr	Va1	Ile	Tyr	Glu	Ile	Pro	Arg	Ser	Gln	Val	Asp	Pro	
			100					105					110			
acg	tcc	gcc	aac	ttc	ctg	atc	tgg	ccc	ccg	tgc	gtg	gag	gtg	aaa	cgc	384
Thr	Ser	Ala	Asn	Phe	Leu	Ile	Trp	Pro	Pro	Cys	Val	Glu	Val	Lys	Arg	
		115					120					125				
tgc	acc	ggc	tgc	tgc	aac	acg	agc	agt	gtc	aag	tgc	cag	ccc	tcc	cgc	432
_					Asn								•			
	130	·	·	_		135				Ť	140				•	
gtc	cac	cac	cgc	agc	gtc	aag	gtg	gcc	aag	gtg	gaa	tac	gtc	agg	aag	480
_			_		Val											
145			•		150				-	155					160	
aag	cca	aaa	tta	aaa	gaa	gtc	cag	gtg	agg	tta	gag	gag	cat	ttg	gag	528
-					Glu	_	_									
		•		165					170					175		
tgc	gcc	tgc	gcg		aca	agc	ctg	aat	•	gat	tat	cgg	gaa	gag	gac	576
_	_	_	_		Thr	_			-	-						
			180					185			-0 -	3	190			
മല്	gat	gt.g						100					100			588
			Arg													
1 111	пор	195	111 0													
c211	)> 5	100														
	1> 24	11														
	2> PI															
			sapi	ane												
	3> no 0> 5	) DITIC	oaħ I.	c112												
		Ance	0370	Tnn	Ala	Lou	Phe	Low	San	Len	رمد	Cve	Tun	Į AII	Ana	
LIC (	V2II	VI.R	CYS	ΥTh	urq	րեր	TITE	₽¢Œ	ner,	₽¢п	Cy 5	$\circ$ ys	T À T.	ned	$m_{\mathcal{S}}$	

1				5					10					15	
Leu	Val	Ser	Ala	Glu	Gly	Asp	Pro		Pro	Glu	Glu	Leu		Glu	Met
т	0	4	20		т1.	<b>.</b>	G	25 Dl.	<b>A</b>	A	T	Δ1	30	T	T
Leu	ser	Asp 35	His	ser_	116	Arg	5er 40	Pne	Asp	Asp	Leu	45	Arg	Leu	Leu
His	G1y 50	Asp	Pro	Gly	Glu	Glu 55	Asp	Gly	Ala	Glu	Leu 60	Asp	Leu	Asn	Met
Thr 65	Arg	Ser	His	Ser	Gly 70	Gly	Glu	Leu	Glu	Ser 75	Leu	Ala	Arg	Gly	Arg 80
Arg	Ser	Leu	Gly	Ser 85	Leu	Thr	Ile	Ala	Glu 90	Pro	Ala	Met	Iŀe	Ala 95	Glu
Cys	Lys	Thr	Arg 100	Thr	Glu	Val	Phe	Glu 105	Ile	Ser	Arg	Arg	Leu 110	Ile	Asp
Arg	Thr	Asn 115	Ala	Asn	Phe	Leu	Val 120	Trp	Pro	Pro	Cys	VaI 125	Glu	Val	Gln
Arg	Cys 130	Ser	Gly	Cys	Cys	Asn 135	Asn	Arg	Asn	Val	Gln 140	Cys	Arg	Pro	Thr
Gln 145	Val	Gln	Leu	Arg	Pro 150	Val	Gln	Val	Arg	Lys 155	Ile	Glu	Ile	Val	Arg 160
	Lys	Pro	Ile	Phe 165		Lys	Ala	Thr	Val 170		Leu	Glu	Asp	His 175	
Ala	Cys	Lys	Cys 180		Thr	Val	Ala	Ala 185	Ala	Arg	Pro	Val	Thr 190		Ser
Pro	Gly	Gly 195	Ser	Gln	Glu	Gln	Arg 200	Ala	Lys	Thr	Pro	Gln 205	Thr	Arg	Val
Thr	Ile 210	Arg	Thr	Val	Arg	Val 215	Arg	Arg	Pro	Pro	Lys 220	Gly	Lys	His	Arg
Lys 225	Phe	Lys	His	Thr	His 230	Asp	Lys	Thr	Ala	Leu 235	Lys	Glu	Thr	Leu	Gly 240
Ala															
<210	)> 6														
<211	> 72	23					-								
<212	2> D1	NA .													
<213	3> Ho	omo s	sapi	ens											
<220	)>														
<221	l> CI	)S													

<223	> (1	)(	726)		·								•			•
<400																40
														ctg		48
Met	Asn	Arg	Cys		Ala	Leu	Phe	Leu		Leu	Cys	Cys	Tyr	Leu	Arg	
1				5					10				<b>.</b>	15	_4	ne
														gag		96
Leu	Val	Ser		Glu	Gly	Asp	Pro		Pro	GIU	GIT.	Leu	30	Glu	мес	
			. 20	4			+	25	<b>~</b> -+	eta t	at a	022		ctæ	cto	144
														ctg		111
Leu	Ser		HIS	Ser	He	Arg	5er 40	rne	ASP	ASP	ren	45	AI S	Leu	иси	
		35		~~	an a	<i>m</i> 0.0		aaa	of the c	ゲコゲ	++ σ		ctø	aac	ate	192
														Asn		
nis	50	W2h	110	uly	ulu	55	Yob	VI)	1110	U.L.	60					
acc		tec	cac	tct	gga.		gag	ctg	gag	agc		gct	cgt	gga	aga	240
														Gly		
65	444 0	241		~~.	70	<b>v</b>				75					80	
	agc	ctg	ggt	tcc	ctg	acç	att	gct	gag	ccg	gcc	atg	atc	gcc	gag	288
														Ala		
				85					90					95		
tgc	aag	acg	cgc	acc	gag	gtg	ttc	gag	atc	tcc	cgg	cgc	ctc	ata	gac	336
Cys	Lys	Thr	Arg	Thr	Glu	Val	Phe	Glu	Ile	Ser	Arg	Arg	Leu	Ile	Asp	
			100					105					110			
														gtg		384
Arg	Thr	Asn	Ala	Asn	Phe	Leu			Pro	Pro	Cys			Val	Gln	
		115					120					125				400
														CCC		432
Arg	Cys	Ser	Gly	Cys	Cys			Arg	Asn	Val			Arg	Pro	inr	
	130					135					140					400
															cgg	480
		Gln	Leu	Arg			Gln	Val	Arg			Glu	1116	s vai	Arg	
145					150					155					160	528
															ctg	040
Lys	Lys	Pro	lle			Lys	Ala	l Ini			. reg	i GIL	i asi	175	Leu	
				165		. سليم		4 مس	170		4 م م		. 60			576
gca	ı tgc	aag	, tgt	gag	, aca	gtg	gca	i gcī	, gca	rcgg	CCI	, Էւբ	acc	, Uga	agc	010

00-12-27; 5:41PM; NGB PATENT DEPT

Ala	Cys	Lys	Cys 180	Glu	Thr	Val	Ala	Ala 185	Ala	Arg	Pro ·	Val	Thr 190	Arg	Ser	
ccg	ggg	ggt	tcc	cag	gag	cag	cga	gcc	aaa	acg	ccc	caa	$\operatorname{act}$	cgg	gtg	624
Pro	Gly	Gly	Ser	Gln	Glu	Gln	Arg	Ala	Lys	Thr	Pro	Gln	Thr	Arg	Val	
		195					200					205				
acc	att	cgg	acg	gtg	cga	gtc	cgc	cgg	ccc	ccc	aag	ggc	aag	cac	cgg	672
Thr	Ile	Arg	${\bf Thr}$	Val	Arg	Val	Arg	Arg	Pro	${\tt Pro}$	Lys	Gly	Lys	His.	Arg	
	210					215					220					
aaa	ttc	aag	cac	acg	cat	gac	aag	acg	gca	ctg	aag	gag	acc	$\operatorname{ctt}$	gga	720
Lys	Phe	Lys	His	Thr	His	Asp	Lys	Thr	Ala	Leu	Lys	Glu	Thr	Leu	Gly	
225					230					235					240	
gcc																723
Ala														•		
<210	)> 7															
<211	> 15	55														
<212	2> PF	T	•													
<213	8> Hc	omo s	apje	ens												
<400	)> 7															
Met	Ala	Ala	Gly	Ser	Ile	Thr	Thr	Leu	Pro	Ala	Leu	Pro	Glu	Asp	Gly	
1				5					10					15		
Gly	Ser	Gly	Ala	Phe	Pro	Pro	Gly	His	Phe	Lys	Asp	Pro	Lys	Arg	Leu	
			20					25					30			
Tyr	Cys	Lys	Asn	Gly	Gly	Phe	Phe	Leu	Arg	Ile	His	Pro	Asp	Gly	Arg	
		35					40					45				
Val	Asp	Gly	Val	Arg	Glu	Lys	Ser	Asp	Pro	His	Ile	Lys	Leu	Gln	Leu	
	50					55					60					
Gln	Ala	Glu	Glu	Arg	Gly	Val	Val	Ser	Ile	Lys	Gly	Val	Cys	Ala	Asn	
65				_	70					75		•			80	
	Туг	Leu	Ala	Met	Lys	Glu	Asp	Gly	Arg		Leu	Ala	Ser	Lys	Cys	
Ŭ	·			85	•		_	_	90					95	-	
Val	Thr	Asp	Glu		Phe	Phe	Phe	Glu		Leu	Glu	Ser	Asn		Tyr	
			100	•				105					110		v	
Asn	Thr	Tvr		Ser	Arg	Lvs	Tvr		Ser	Tro	Tyr	Val		Leu	Lys	
~11		115	0		0	_, ~	120			- • r	-0-	125			-v -	
Aro	Thr		Gln	Tun	Lys	T.e11		Ser	Lve	Thr	Glv		Glv	Gln	Lve	
171 P	130	ulj	Q 111	1 / 1	u y S	125	u I J	Del	D) 3	* 111	140	110	u I y	0111	பரவ	

00-12-27; 5:41PM; NGB PATENT DEPT

Ala	Ile	Leu	Phe	Leu	Pro	Met	Ser	Ala	Lys	Ser						
145					150											
<210	> 8															
<211	> 46	55														
<212	> DN	IA		٠												
<213	> Hc	omo s	sapie	ns			•									
<220																
<221																
		L)(	(468)	)												
<400		•		•												40
			ggg													48
	Ala	Ala	Gly		116	Inr	Thr	Leu		Ala	теп	Pro	ATI		aly	
1				5					10		eto o	222	000	15	at or	96
			gcc													90
чгу	ser	Gly	Ala 20	rne	rro	rro	цту	25	rne	пуз	ASP	110	30	Mξ	ьец	·
+00	+ ~ ~	000	aac	ararar ararar	or or o	++0	++c		cac	atc	cac	cee		øør	· r øa	144
			Asn													111
1 9 1	Oy 3	35	17011	u i y	013	1110	40	БСС	111 G		****	45	1101	W.L.J	0	
ett	gac		gtc	cgg	gag	ลละ		gac	cct	cac	atc		cta	caa	ctt	192
			Val													
	50					55		-			60					
caa	gca	gaa	gag	aga	gga	gtt	gtg	tct	atc	aaa	gga	gtg	tgt	gct	aac	240
			Glu													•
65					70					75					80	
cgt	tac	ctg	gct	atg	aag	gaa	gat	gga	aga	tta	$\operatorname{ctg}$	gct	tct	aaa	tgt	288
Arg	Tyr	Leu	Ala	Met	Lys	Glu	Asp	Gly	Arg	Leu	Leu	Ala	Ser	Lys	Cys	
				85					90					95		
gtt	acg	gat	gag	tgt	ttc	ttt	ttt	gaa	cga	ttg	gaa	tct	aat	aac	tac	336
Val	Thr	Asp	Glu	Cys	Phe	Phe	Phe	Glu	Arg	Leu	Glu	Ser	Asn	Asn	Tyr	
			100					105					110			
			cgg													384
Asn	Thr	Tyr	Arg	Ser	Arg	Lys	Tyr	Thr	Ser	Trp	Tyr		Ala	Leu	Lys	
		115					120					125				
			cag													432
Arg	Thr	Gly	Gln	Tyr	Lys	Leu	Gly	Ser	Lys	Thr	Gly	Pro	Gly	Gln	Lys	

465

130					135					140				
ata	ctt	ttt	$\operatorname{ctt}$	cca	atg	tct	gct	aag	agc					
Ile	Leu	Phe	Leu	Pro	Met	Ser	Ala	Lys	Ser			•		
				150					155					
)> 9														
l> 32	24													
2> Pl	RT													
3> Ho	omo s	sapi	ens											
)> 9														
Phe	Pro	Ser	Pro	Ala	Leu	Thr	Pro	Thr	Pro	Phe	Ser	Val	Lys	Asp
			5					10					15	
Leu	Asn	Leu 20	Glu	Gln	Gln	Gln	Arg 25	Ser	Leu	Ala	Ala	Ala 30	Gly	Glu
Ser	Ala	Arg	Leu	Glu	Ala	Thr	Leu	Ala	Pro	Ser	Ser	Cys	Met	Leu
	35					40					<b>4</b> 5			
Ala 50	Phe	Lys	Pro	Glu	Ala 55	Tyr	Ala	Gly	Pro	G1u 60	Ala	Ala	Ala	Pro
Leu	Pro	Glu	Leu	Arg `70	Ala	Glu	Leu	Gly	Arg 75	Ala	Pro	Ser	Pro	Ala 80
Cys	Ala	Ser		Phe	Pro	Ala	Ala		Ala	Phe	Tyr	Pro		Ala
C	<b>A</b>	D		D	.1.	Y	<b>4</b>			4.7		<b>T</b>		0.1
2er	Asp	100	Asp	Pro	Ala	Lys	105	Pro	Arg	Ala	Glu	110	Lys	Glu
Cys		Leu	Gln	Lys	Ala		Glu	Leu	Glu	Lys		Glu	Ala	Asp
Ala		Arg	Pro	Arg	Ala		Arg	Arg	Arg	Lys		Arg	Val	Leu
130		_		Ĭ								<b>J</b>		
Ser	Gln	Ala	Gln	Val	Tyr	Glu	Leu	Glu	Arg		Phe	Lys	Gln	Gln
				150					155	_				160
Tyr	Leu	Ser	Ala	Pro	Glu	Arg	Asp	Gln	Leu	Ala	Ser	Val	Leu	Lys
			165					170					175	
Thr	Ser	Thr	Gln	Val	Lys	Ile	Trp	Phe	Gln	Asn	Arg	Arg	Tyr	Lys
		180					185					190		
Lys	Arg 195	Gln	Arg	Gln	Asp		Thr	Leu	Glu	Leu		Gly	Leu	Pro
Pro		Pro	Pro	Pro	Ala		Arg	Ile	Ala	Val		Val	Leu	Val
	ata Ile  0> 9 1> 32 2> Pl 3> Ho 0> 9 Phe Leu Cys Ala 130 Ser Tyr Thr Lys	ata ctt Ile Leu  0> 9 1> 324 2> PRT 3> Homo s 0> 9 Phe Pro Leu Asn Ser Ala 35 Ala Phe 50 Leu Pro Cys Ala Ser Asp Cys Ala 115 Ala Glu 130 Ser Gln Tyr Leu Thr Ser Lys Arg 195	ata ctt ttt Ile Leu Phe  0> 9 1> 324 2> PRT 3> Homo sapic 0> 9 Phe Pro Ser  Leu Asn Leu 20 Ser Ala Arg 35 Ala Phe Lys 50 Leu Pro Glu  Cys Ala Ser  Ser Asp Pro 100 Cys Ala Leu 115 Ala Glu Arg 130 Ser Gln Ala  Tyr Leu Ser  Thr Ser Thr 180 Lys Arg Gln 195	ata ctt ttt ctt Ile Leu Phe Leu  0> 9 1> 324 2> PRT 3> Homo sapiens 0> 9 Phe Pro Ser Pro 5 Leu Asn Leu Glu 20 Ser Ala Arg Leu 35 Ala Phe Lys Pro 50 Leu Pro Glu Leu  Cys Ala Ser Ala 85 Ser Asp Pro Asp 100 Cys Ala Leu Gln 115 Ala Glu Arg Pro 130 Ser Gln Ala Gln  Tyr Leu Ser Ala 165 Thr Ser Thr Gln 180 Lys Arg Gln Arg 195	ata ctt ttt ctt cca Ile Leu Phe Leu Pro 150 0> 9 1> 324 2> PRT 3> Homo sapiens 0> 9 Phe Pro Ser Pro Ala 5 Leu Asn Leu Glu Gln 20 Ser Ala Arg Leu Glu 35 Ala Phe Lys Pro Glu 50 Leu Pro Glu Leu Arg 70 Cys Ala Ser Ala Phe 85 Ser Asp Pro Asp Pro 100 Cys Ala Leu Gln Lys 115 Ala Glu Arg Pro Arg 130 Ser Gln Ala Gln Val 150 Tyr Leu Ser Ala Pro 165 Thr Ser Thr Gln Val 180 Lys Arg Gln Arg Gln 195	ata ctt ttt ctt cca atg   Ile   Leu   Phe   Leu   Pro   Met     150     1> 324     2> PRT     3>   Homo   sapiens     3> 9     Phe   Pro   Ser   Pro   Ala   Leu     5     Leu   Asn   Leu   Glu   Gln   Gln     20     Ser   Ala   Arg   Leu   Glu   Ala     35     Ala   Phe   Lys   Pro   Glu   Ala     50   55     Leu   Pro   Glu   Leu   Arg   Ala     50   55     Leu   Pro   Glu   Leu   Arg   Ala     70     Cys   Ala   Ser   Ala   Phe   Pro     85     Ser   Asp   Pro   Asp   Pro   Ala     100     Cys   Ala   Leu   Gln   Lys   Ala     115     Ala   Glu   Arg   Pro   Arg   Ala     130   135     Ser   Gln   Ala   Gln   Val   Tyr     150     Tyr   Leu   Ser   Ala   Pro   Glu     165     Thr   Ser   Thr   Gln   Val   Lys     180     Lys   Arg   Gln   Arg   Gln   Asp     195	ata ctt ttt ctt cca atg tct Ile Leu Phe Leu Pro Met Ser 150  0> 9 1> 324 2> PRT 3> Homo sapiens 0> 9 Phe Pro Ser Pro Ala Leu Thr 5 Leu Asn Leu Glu Gln Gln Gln 20 Ser Ala Arg Leu Glu Ala Thr 35 40 Ala Phe Lys Pro Glu Ala Tyr 50 55 Leu Pro Glu Leu Arg Ala Glu 70 Cys Ala Ser Ala Phe Pro Ala 85 Ser Asp Pro Asp Pro Ala Lys 100 Cys Ala Leu Gln Lys Ala Val 115 120 Ala Glu Arg Pro Arg Ala Arg 130 135 Ser Gln Ala Gln Val Tyr Glu 150 Tyr Leu Ser Ala Pro Glu Arg 165 Thr Ser Thr Gln Val Lys Ile 180 Lys Arg Gln Arg Gln Asp Gln 195	ata       ctt       ttt       ctt       cca       atg       tct       gct         Ile       Leu       Phe       Leu       Pro       Met       Ser       Ala         150       1	ata         ctt         ctt         cta         atg         ctc         gct         aag           Ile         Leu         Phe         Leu         Pro         Met         Ser         Ala         Lys           10> 9         1> 324         2> PRT         324	ata ctt         ttt         ctt         cca         atg         tct         gct         aag         agc           Ile Leu         Phe         Leu         Pro         Met         Ser         Ala         Lys         Ser           30> 9         1> 324         1	Ala   Ctt   Ctt   Ctt   Ctc   Ats   Ctc   Gtt   Ala   Lys   Ser   150   155	Ala   Ctt   Ctt   Cta   Cta   Ata   Cta   Cta   Cta   Cta   Ata   Lys   Ser	Ala   Ctt   Ctt   Ctt   Ctc   Atg   Ctt   Ser   Ala   Lys   Ser   155	ata ctt         ttt ctt         cta atg         tct gct         aag agc           Ile Leu         Phe         Leu         Pro         Met         Ser         Ala         Lys         Ser           30> 9         1> 324         155         155         155           30> 9         1> 324         1         1         1         1           3> Homo sapiens         5         1         1         1         1         1           3> 9         Phe         Pro         Ala         Leu         Thr         Pro         Thr         Pro         Phe         Ser         Val         Lys           5         1

00-12-27; 5:41 PM; NGB PATENT DEPT

	210					215					220					
Arg 225		Gly	Lys	Pro			Gly	Asp	Ser	Ala 235	Pro	Tyr	Ala	Pro	Ala 240	
Tyr	Gly	Val	Gly	Leu 245	Asn	Pro	Tyr		Tyr 250	Asn	Ala	Tyr	Pro	Ala 255	Tyr	
Pro	Gly	Tyr	Gly 260	Gly	Ala	Ala	Cys	Ser 265	Pro	Gly	Tyr	Ser	Cys 270	Thr	Ala	
Ala	Tyr	Pro 275		Gly	Pro	Ser	Pro 280	Ala	Gln	Pro	Ala	Thr 285	Ala	Ala	Ala	
Asn	Asn 290		Phe	Val	Asn	Phe 295	Gly	Val	Gly	Asp	Leu 300	Asn	Ala	Val	Gln	
Ser 305		Gly	Ile	Pro	GIn 310	Ser	Asn	Ser	Gly	Val 315	Ser	Thr	Leu	His	Gly 320	
He	Arg	Ala	Trp													
	0> 10 1> 9'															
	- 2> DI															
			sapi	ens												
<22																
<22	1> C	DS														
<22	3> (	1)	(975	)												
	0> 1															40
atg	ttc	ccc	agc	cct	gct	ctc	acg	ccc	acg	CCC	ttc	tca	gtc	aaa	, gac	48
	Phe	Pro	Ser		Ala	Leu	Thr	Pro			Phe	Ser	Val	Lys 15		
1	,			5			,		10		· cot	maa.	or o o			96
															gag Glu	00
11e	ren	ASI	20		GIII	4111	GIII	25		пеа	nie		30		Glu	
ctc	tct	gcc	cgc	ctg	gag	gcg	acc	ctg	gcg	cec	tcc	tcc	tgo	ate	ctg	144
Leu	Ser	Ala	. Arg	Leu	Glu	Ala	. Thr	Leu	Ala	Pro	Ser	Ser	Cys	Met	Leu	
		35					40					45				4.00
															g ccg	192
Ala			Lys	Pro	Glu			Ala	. Gly	Pro			ı Ala	a Ala	a Pro	•
	50					55		. 4			60				<b>.</b>	240
gg (	e etc	cca	gas	e cte	cgc	gca	gag	ctg	ggc	cgo	gcg	CÇT	, tca	r ccs	g gcc	<b>440</b>

00-12-27; 5:41 PM; NGB PATENT DEPT

Gly 65	Leu	Pro	Glu	Leu	Arg 70	Ala	Glu	Leu	Gly	Arg 75	Ala	Pro	Ser	Pro	Ala 80	
_				gcc Ala 85												288
				gac Asp					cct							336
				cag Gln												384
				ccc Pro												432
	tcg			cag Gln		tat										480
cgg				gcc Ala 165	ccc					ctg Leu						528
									ttc	cag				tac Tyr	aag Lys	576
			cag	cgg Arg				act Thr					ggg Gly	ctg	ccc Pro	624
		ccg Pro					Arg					Pro			gtg Val	672
	gat Asp	ggc		Pro		Leu					. Pro				gcc Ala 240	720
tac	ggc				Asn					Asr					tat Tyr	768
ccg	ggt	tac	ggo			gco	tg0	ago	cct	t ggo	tac	ago	tg0	act	gcc	816

							-									
Pro	Gly	Tyr	Gly 260	Gly	Ala	Ala		Ser 265	Pro	Gly	Tyr	Ser	Cys 270	Thr	Àla	
gct	tac	ccc	gcc	ggg	cct	tcc	cca	gcg	cag	ccg	gcc	act	gcc	gcc	gcc	864
Ala	Tyr	Pro	Ala	Gly	Pro	Ser	Pro	Ala	Gln	Pro	Ala	Thr	Ala	Ala	Ala	
		275					280					285				
aac	aac	aac	ttc	gtg	aac	ttc	ggc	gtc.	ggg	gac	ttg	aat	gcg	gtt	cag	912
Asn	Asn	Asn	Phe	Val	Asn	Phe	Gly	Val	Gly	Asp	Leu	Asn	Ala	Val	Gln	
	290					295					300	•			. Σ	
agc	ccc	ggg	att	ccg	cag	agc	aac	tcg	gga	gtg	tcc	acg	ctg	cat	ggt	960
Ser	Pro	Gly	Ile	Pro	Gln	Ser	Asn	Ser	Gly	Val	Ser	Thr	Leu	His	Gly	•
305					310					315					320	
atc	cga	gcc	tgg													972
Ile	Arg	Ala	Trp													
			324													
<21	0> 1	1														
<21	1> 4	<b>4</b> 2									,					
<21	2> P	RT														
<21	3> H	ono	sapi	ens												
<40	0> 1	1									•					
Met	Tyr	Gln	Ser	Leu	Ala	Met	Ala	Ala	. Asn	His	Gly	Pro	Pro	Pro	Gly	
1				5					10					15		
Ala	Tyr	Gln	Ala	Gly	Gly	Pro	Gly	Pro	Phe	Met	His	Gly	Ala	. Gly	Ala	
			20	1				25			_		30		•• •	
Ala	. Ser	Ser	Pro	Val	Tyr	Leu	Pro	Thr	Pro	Arg	Val			Ser	Val	
		35					40					45		_	<b>4</b> 1	
Leu	Gly	' Leu	Ser	Tyr	Leu	Gln	Gly	Gly	Gly	Ala			Ala	. Ser	Gly	
	50					55					60					
Gly	Pro	Ser	Gly	Gly	Ser	Pro	Gly	Gly	/ Ala	. Ala	. Ser	· G13	7 Ala	ı Gly	Pro	
65	5				70					75					80	
Gly	7 Thi	Glr	Gln	Gly	z Ser	Pro	Gly	Tr	Ser	Glr	ı Ala	i Gl	y Ala	a Thr	Gly	
				88					90				t	95	.,	
Ala	a Ala	а Туг	Thr	Pro	Pro	Pro	Val	Se	r Pro	o Are	? Phe	e Sei	r Ph	e Pro	o Gly	
			100					10					11			
Th	r Thi	r Gly	/ Ser	Lei	ı Ala	ı Ala	a Ala	a Ala	a Ala	a Ala	a Ala	a Al	a Al	a Arg	g Glu	
		115					120					12	5			
. 1		_ 11.	. т	2 50	n Car	. ርገ <sub>ን</sub>	, G13	, G1	v Ala	a Ala	a G1:	v A1	a Gl	y Lei	ı Ala	

	130					135					140				
145	Arg		Gln		150					155					160
			Ala	165					170					175	
			Ser 180					185					190		
		195	Ala				200					205			
	210		Ser			215					220				
225			Trp		230					235					240
			Tyr	245			•		250					255	
			Arg 260					265					270		
		275	Thr				280					285			
	290					295					300				Val
305					310					315					Arg 320
				325					330	1			•	335	
			340					345	j				350	)	Asn
		355	, )				360	1				365	5		Pro
	370	)				375	5				380	)			Phe
Ser 385		l Sei	· Ala	a Met	Ser 390		7 His	Gly	y Pro	Ser 399		His	s Pro	o Val	Leu 400
Sei	· Ala	a Lei	ı Lys	s Let 409		Pro	o Glr	ı Gl	y Ty:		a Sei	r Pro	o Vai	1 Sei 419	c Gln 5
Sei	r Pro	o Gli	n Thi	r Sei	r Sei	r Lys	s Gli	ı Ası	p Se	r Tr	p Ası	n Se	r Le	u Vai	l Leu

			420				4	<b>42</b> 5				4	130			
Ala /		Ser 435	His	Gly .	Asp		lle ' 440	Thr	Ala							
<210	> 12		•													
<211	> 13	26														
<212	> DN	Α														
<213	> Ho	mo s	apie	ns				-								
<220	>															
<221	> CD	S														
<223	> (1	)(	1329	<b>)</b> )												
<400	> 12	}								•						40
atg	tat	cag	agc	ttg	gcc	atg	gcc	gcc	aac	cac	ggg	ccg	CCC	ccc	ggt	48
Met	Tyr	${\tt Gln}$	Ser	Leu	Ala	Met	Ala	Ala	Asn	His	Gly	Pro	Pro	Pro	GIA	
1				5					10					10		ne.
gcc	tac	cag	gcg	ggc	ggc	cc¢	ggc	ccc	ttc	atg	cac	ggc	gcg	ggc	gcc	96
Ala	Tyr	Gln	Ala	Gly	Gly	Pro	Gly	Pro	Phe	Met	His	Gly	Ala	Gly	Ala	
			20					25					30			4.4.4
gcg	tcc	tcg	cca	gtc	tac	$\operatorname{ctg}$	ccc	aca	ccg	cgg	gtg	ccc.	tcc	tcc	gtt	144
Ala	Ser	Ser	Pro	Val	Tyr	Leu	Pro	Thr	Pro	Arg	Val	Pro	Ser	Ser	Val	
		35					40					45		4		100
ctg	ggc	ctg	tcc	tac	ctc	cag	ggc	gga	ggc	gcg	ggc	tct	gcg	tcc	gga	192
Leu	Gly	Leu	Ser	Tyr	Leu	Gln	Gly	Gly	Gly	Ala	Gly	Ser	Ala	Ser	GLY	
	50					55					60					0.40
ggc	ccc	tcg	ggc	ggc	agc	ccc	ggt	ggg	gcc	gcg	tct	ggt	gcg	ggg	ccc	240
Gly	Pro	Ser	Gly	Gly	Ser	Pro	Gly	Gly	/ Ala	Ala	Ser	Gly	Ala	Gly	Pro	
65					70	1				75					80	000
ggg	acc	cag	; cag	ggc	ago	ccg	gga	, tgg	gago	cag	gcg	gga	gcg	acc	gga	288
G1y	Thr	Glr	ı Glr	Gly	Ser	· Pro	Gly	Tr	Ser	Gln	Ala	l Gly	Ala	. Thr	Giy	
				85	;				90	)	·			95		000
gcc	gct	tac	acc	cce	ccg	g ccg	gtg	tce	ccs	cgc	tto	tcc:	tto	ccg	ggg	336
Ala	. Ala	а Туі	r Thi	r Pro	Pro	Pro	Val	Se	r Pro	Arg	Phe	e Ser	Phe	Pro	Gly	
			100	)				10	5				110	)		·
acc	ac	c ggs	g to	c cta	g gcg	g gcg	g gcg	gc	g gcg	g gct	gce	gco	gc	cgg	gaa	384
Thr	Th	r Gl:	y Se	r Lei	u Ala	a Ala	ı Ala	a Ala	a Ala	a Ala	a Ala	a Ala	. Ala	a Arg	Glu	
		11	5				120	)				125	)			
gc1	t gc	g gc	c ta	c ag	c ag	t gg	gg	e gg	a gc	g gcg	g gg	t gcg	gg	c ctg	g gcg	432

													~ •	-		
Ala		Ala	Tyr	Ser	Ser		Gly (	Gly A	Ala .	Ala	Gly 140	Ala	Gly	Leu	Ala	•
	130					135			<b></b> .			+ 0.0	tac	tec	200	480
ggc	cgc	gag	cag	tac	ggg	cgc .	gcc (	ggc	ttc	gcg	ggc	000	T	Can	604	
Gly	Arg	Glu	Gln	Tyr	Gly	Arg	Ala	Gly 1	Phe	Ala	Gly	Ser	lyr	er.	261	` <b>\</b>
145					150					155					160	•
ccc	tac	ccg	gct	tac	atg	gcc	gac .	gtg	ggc	gcg	tcc	tgg	gcc	gca	gco	528
Pro	Tyr	Pro	Ala	Tyr	Met	Ala	Asp	Val	Gly	Ala	Ser	Trp	Ala	Ala	Ala	3.
				165					170					170		
gcc	gcc	gcc	tcc	gcc	ggc	ccc	ttc	gac	agc	ccg	gtc	ctg	cac	agc	cts	g 576
Ala	Ala	Ala	Ser	Ala	Gly	Pro	Phe	Asp	Ser	Pro	Val	Leu	His	Ser	Le	u .
7114	1110		180		•			185					190			
000	שליר שליר	<b>୮</b> ଫ ଫ	gee	aac	ccg	gcc	gcc	cga	cac	ccc	aat	ctc	gat	atg	tt	t 624
Dro	65°	Ara	Δla	Asn	Pro	Ala	Ala	Arg	His	Pro	Asn	Leu	Asp	Met	Ph	е
rro	Uly	195	VIO	71511			200					205				
		150	+00	gaa	ggc	aga		tet	gt.c	aac	tgt	ggg	gct	atg	tc	c 672
gac	gac	Dha	Con	, <u> </u>	Gly	Aro	Glu	Cvs	Val	Asn	Cys	Gly	Ala	Met	Se	r
Asp			Ser	gru	uly	215	GIU	0,0	,		220	)				
	210				cga		or or or	200	oot	cac			tgc	aac	go	c 720
acc	ccg	ctc	τgg	agg	de d	ga t	655 Clv	Thr	61 v	His	Tvr	Leu	Cvs	Asn	Al	a
		Leu	Tr	Arg		Asp	GIA	7 111	пту	235	1,1	ДОС	. 0, -		24	10
225					230				-+ -			r 000	r ctc	ato		
tgt	ggc	cto	ta(	cac	aag	atg	aac	ggc	alc	laac	Ana	· Desc	Lou	134	, ac	
Cys	Gly	Leu	Гу1		Lys	Met	Asn	иту	116	ASI	ı WL.	3 110	рьсо	258	, <u>11</u> ,	J
				245					250		_		. +			ec 816
cct	cae	g cgo	cg;	g cta	g too	gcc	tcc	cgc	cga	gte	gge	2 6 6		: Ug	ι <u>κ</u> ι - λ'	
Pro	Gli	ı Arg	g Ar	g Lei	ı Ser	· Ala	Ser	Arg	Arg	g Val	l Gl;	y Le	u Sei	r Cy:	S A.	ıa
			26	0				265					270	J		
aad	tg:	c cas	g ac	c ac	c acc	acc	acg	ctg	tg	g cgo	c cg	c aa	t gc	g ga	g g	gc 864
Ası	a Cy:	s Gli	n Th	r Th	r Thi	Thr	Thr	Leu	ı Tr	p Ar	g Ar	g As	n Ala	a Gl	u G	ly
		27	5				280	)				28	b			
<b></b>	ም ሮሮ	t et	e te	c aa	t gc	tgo	ggo	cto	ta	c at	g aa	g ct	c ca	c <b>gg</b>	g g	tg 912
61.	ıı Dr	o Va	5 -9 1 Cv	s As	n Ala	а Суз	s Gly	7 Let	1 Ty:	r Me	t Ly	s Le	u Hi	s Gl	уγ	al
U1	u 11 29		1 00	~ 11~		29					30	0				
2.2	20	.u. 00	+ c+	t oc	a at			a ga	g gg	g at	c ca	a ac	c ag	a aa	a c	gg 960
ÇÇ	Ç dıg	g (() g (),	υ υ ι - Δ Υ Δ	, o 50	a Me	t Ar	y I.v	5 G11	u G1	y []	e Gl	n Th	ır Ar	g Ly	s A	rg
		g rr	ОГЕ	or wr	31		5 AJ,		<b>-</b>	31	5				3	320
30	Ö						n +n	+ 22	ത മറ			a go	et co	t to	a e	gc 1008
aa	g co	c aa	g aa	ac ct	g aa	ı aa	a ic	c aa	5 40	است داد	S	·~ 5'	, , ,			. ~

00-12-27; 5:41PM;NGB PATENT DEPT

Lys	Pro	Lys	Asn	Leu	Asn	Lys	Ser	Lys	Thr	Pro	Ala	Ala	Pro	Ser	Gly	
				325					330					335		
agt	gag	agc	ctt	$\operatorname{cct}$	ccc	gcc	agc	ggt	gct	tcc	agc	aac	tcc	agc	aac	1056
Ser	Glu	Ser	Leu	Pro	Pro	Ala	Ser		Ala	Ser	Ser	Asn		Ser	Asn	
			340					345					350			1104
gcc	acc	acc	agc	agc	agc	gag	gag	atg	cgt	CCC	atc	aag	acg	gag	CCT	1104
Ala	Thr		Ser	Ser	Ser	Glu		Met	Arg	Pro	He		Inr	GIU	Pro	•
		355					360					365			++ 0	1159
ggc	ctg	tca	tct	cac	tac	ggg	cac	agc	agc	tee	gtg	tee	cag	acg	Dha	1152
Gly		Ser	Ser	His	Tyr		His	Ser	5er	Ser		Ser	Q I:II	lnr	rne	
	370					375				+	380			art o	oto	1200
tca	gtc	agt	gcg	atg	tet	ggc	cat	ggg	CCC	Con	alc	Uic	Dro	Val	Len	1200
	Val	Ser	Ala	Met		иту	HIS	Gly	Pro	395	116	птэ	110	Vai	400	
385		4			390		~~~	eteto	tat		tot	000	ot c	age		1248
tcg	gcc	ctg	aag	CEC	000	Dra	Caa	ggc Clu	Tun	Δla	Sar	Pro	Val	Ser	Gln	1510
Ser	Ala	Leu	Lys		261.	FFO	GIH	Uly ·	410	VIG	SCI	,10	, 62	415	Gln	
4.4		A 0.7	0.00	405	too	220	0.36	øa.c		† <i>σ</i> σ	aac	agt	ctg		ttg	1296
			Thr													
76¶.	Fro	GIII	420	361	per	цуз	GIII	425	<b>5</b> 01	11. P	11011	201	430			
of a c	താര	a ort	cac	രംഗ	gar	ata	atc		gcg							1326
_			His													
VIG	дор	435		ui,	ПОР	110	440									
<21	0> 1															
	1> 5															
	2> P															
			sapi	ens												
	0> 1		-													
			: Lys	Lys	ille	Glr	He	Thr	· Are	, Ile	e Met	Asp	Glu	ı Arg	, Asn	
1				5					10					15		
Arg	Glr	ı Val	Thr	Phe	Thr	Lys	Arg	y Lys	s Phe	e Gly	, Lei	ı Met	t Lys	Lys	s Ala	
			20					25					30			
Туг	Glu	ı Lev	ı Ser	· Val	Lei	ı Cys	s Asj	y Cys	s Glu	ı He	e Ala	a Lei	1 Ile	e Ile	Phe	
		38	5				40	)				4	5			
Ası	ı Sei	r Sei	. Asr	ı Lys	s Lei	ı Phe	e Gli	n Tyi	r Ala	a Sei	r Thi	r Asj	p Met	t Ası	) Lys	
	5(					58					60					

00-12-27; 5:41PM;NGB PATENT DEPT

65			Lys		70					75					80
Asn	Ser	Asp	Ile	Val 85	Glu	Ala	Leu	Asn	Lys 90	Lys	Glu	His.	Arg	Gly 95	Cys
Asp	Ser	Pro	Asp 100	Pro	Asp	Thr	Ser	Tyr 105	Val	Leu	Thr	Pro	His 110	Thr	Glu
Glu	Lys	Tyr 115	Lys	Lys	Ile	Asn	Glu 120	Glu	Phe	Asp	Asn	Met 125	Met	Arg	Asn
His	Lys 130		Ala	Pro	Gly	Leu 135	Pro	Pro	Gln	Asn	Phe 140	Ser		Ser	Val
Thr 145	Val	Pro	Val	Thr	Ser 150	Pro	Asn	Ala	Leu	Ser 155		Thr	Asn	Pro	Gly 160
Ser			Val	165					170					175	
			Leu 180					185					190		
		195					200					205			
Leu	Ser 210		Thr	Asp	Leu	Thr 215		Pro	Asn	Gly	Ala 220	Gly	Ser	Ser	Pro
225	Gly	Asn			230					235	,				G1y 240
Ala	Thr	· Gly	Ala	. Asn 245		Leu	Gly	Lys	Va.] 25(		Pro	Thr	Lys	Ser 255	Pro
Pro	Pro	Pro	61y 260		Gly	Asn	Leu	Gly 265		t Asr		Arg	Lys 270	Pro	Asp
		278	5				280	)				288	5		Leu
Ser	Glı 290	ı Glı	u Glu	ı G10	ı Let	ı Glı 295		ı Ası	n Th	r Gli	n Arg 300		e Ser	· Ser	Ser
Gl1 309	n Al		r Glı	n Pro	Let 310		a Thi	r Pro	o Va	1 Va 31		r Va.	l Thi	r Thr	Pro 320
Sei	r Le	u Pr	o Pro	o G11 325	n G1;		ı Va	l Ty	r Se 33		a Met	t Pro	o Thi	r Ala 339	a Tyr 5
Asi	n Th	r As	р Ту: 34	r Se		u Thi	r Se	r Al 34		p Le	u Sei	r Ala	a Lei 35	u Gli O	n Gly

		355	Pro				360					365				
	370		Leu			375					380					
Gln 385	Leu	Ser	Gln		Ser 390	Asn	Leu	Ser	Ile	Asn 395	Thr	Asn	Gln	Asn	Ile 400	
Ser	Ile	Lys	Ser	Glu 405	Pro	He	Ser	Pro	Pro 410	Arg	Asp	Arg	Met	Thr 415	Pro	
Ser	Gly	Phe	Gln 420	Gln	Gln	Gln	Gln	Gln 425	Gln	Gln	Gln	Gln	Gln 430	Pro	Pro	
Pro	Pro	Pro 435		Pro	Gln	Pro	Gln 440		Pro	Gln	Pro	G1n 445	Pro	Arg	Gln	,
Glu	Met 450		Arg	Ser	Pro	Val 455	Asp	Ser	Leu	Ser	Ser 460	Ser	Ser	Ser	Ser	
465	Asp				470					475	;				Pro 480	
Ile	Val	Leu	Gly	Arg 485		Pro	Asn	Thr	Glu 490		Arg	g Glu	Ser	Pro 495	Ser	
Val	Lys	Arg	Met 500		Met	dsA .	Ala	Trp 505		Thr	•			÷		
	0> 1															
	1> 1															
	.2> D															
		lomo	sapi	ens												
<22	:0> 21> (	פתי														
			(152	24)												
	00> 1		, (200	/												
ats	g ggg	g cg	g aag	g aaa	a ata	a caa	ate	c a.ca	a cg	c at	a at	g ga	t ga	a ag	g aac	48
Me	t Gl	y Ara	g Lys	s Ly	s Il	e Gli	n II	e Thi	r Ar	g Il	e Me	t As	p Gl	u Ar	g Asn	
	1				5				1						5	0G
cg	a ca	g gt	c ac	t tt	t ac	a aa	gag	a aa	g tt	t gg	a tt	a at	gaa 	g aa	a gcc	96
			2	0				2	5				. 3	0	s Ala	
ta	t ga	a ct	t ag	t gt	g ct	c tg	t ga	c tg	t ga	a at	a go	a ct	c at	c at	t ttc	144
Tv	r Gl	11 T.e	n Se	r Va	1 Le	u Cy	s As	рСу	s Gl	u Il	e Al	a Le	u Il	e Il	e Phe	

		35					40					45				
aac	agç	tct	aac	aaa	ctg	ttt	caa	tat	gct	agc	act	gat	atg	gac	aaa	192
Asn	Ser	Ser	Asn	Lys	Leu	Phe	Gln	Tyr	Ala	Ser	Thr	Asp	Met	Asp	Lys	
	50					55					60					2.40
gtt	ctt	ctc	aag	tat	aca	gaa	tat	aat	gaa	cct	cat	gaa	agc	aga	acc	240
Val	Leu	Leu	Lys	Tyr	Thr	Glu	Tyr	Asn	Glu		His	Glu	Ser	Arg	Thr	
65					70.					75					80.	. 200
aac	tcg	gat	att	gtt	gag	gct	ctg	aac	aag	aag	gaa	cac	aga	ggg	Cyc	288
Asn	Ser	Asp	Ile		Glu	Ala	Leu	Asn		Lys	Glu	HIS	Arg	95	Cys	
				85		4	41.	ala ala	90	at a	aat	000	cat		ฮลล	336
gac	agc	cca	gac	cct	gat	act	tca	Tun	g cg	Lon	act	Pro	His	Thr	Glu	000
Asp	Ser	Pro		Pro	ASP	inr	ser.	105	AGI	гец	Thr	110	110	1111	014	
		+ + +	100	200	2++	aat	ത്മത		<b>+.+.+</b>	gat.	aat	atg		cgg	aat	384
gaa	aaa	Turn	Ive	Lvs	Ila	Acn	Glu	Glu	Phe	Asp	Asn	Met	Met	Arg	Asn	
GIU	гур	115	цуэ	.шу э	110	11011	120					125				
cat	222		gca	cct	ggt	ctg		cct	cag	aac	ttt	tca	atg	tct	gtc	432
His	Lvs	He	Ala	Pro	Gly	Leu	Pro	Pro	Gln	Asn	Phe	Ser	Met	Ser	Val	
	130					135					140					
aca			gtg	acc	agc	ccc	aat	gct	ttg	tcc	tac	act	aac	cca	ggg	480
Thr	Val	Pro	Val	Thr	Ser	Pro	Asn	Ala	Leu	Ser	Туг	Thr	Asn	Pro	Gly	
145					150					155					160	
agt	tca	ctg	gtg	tcc	cca	, tct	ttg	gca	gcc	agc	tca	acg	tta	aca	gat	528
Ser	Ser	Leu	Val	Ser	Pro	Ser	Leu	Ala	Ala	. Ser	Ser	Thr	Leu	Thr	Asp	
				165					170					175		576
tca	agc	atg	cto	tct	cca	cct	caa	acc	aca	i tta	cat	aga	. aat	gtg	tct	576
Ser	Ser	Met			Pro	Pro	Gln			' Let	l H1s	Arg	ASI	ı va.ı	Ser	
			180	)				185					190		r ato	624
cct	gga	, gct	cct	cag	aga	e cca	r cca	agt	act	gge	aat	, gca	י אא י רבו ז	, 61s	g atg	021
Pro	Gly			Gir	Are	r Pro			, IUI	. 01)	ASI	205	r ari	, 01°	y Met	
		195					200		1	. dd	a orci			າ ຂອງ	t cca	672
tte	; ago	act	aca	agao	CU	; acc	i gue	Dro	L GOI	569 1011	z gov	61v	r Ger	r Se	t cca r Pro	
Let			' Ini	. ASI	טע נ	215			) ASI	1 41,	220					
. 4 س	210		مورس	a +++	+ orta			9 A D 2	a grot	t te			t tt:	gat	t gga	720
gtg	5 gg8	, aa	L KK	a bbi	υ gui	a aak 1 Aes	יטט ב ימל ח	n Ama	- 50 - Als	a Se	r Pri	o Asi	n Le	u II	e Gly	
٧a.	L UI)	ASI	ת מדי	y Lili	= Va	ו אסו	ו טפו		, ,,,,	~ ~~	'				J	

005					230					235					240	
225	not.	ggt	mn a			tta	ታታር	ลลล	etc	_	cct	aca	aag	tct		768
gu.	ac i Thn	Gly	Ala	Asn	Ser	Len	Glv	Lvs	Val	Met	Pro	Thr	Lys	Ser	Pro	
Ala	1111.	dly	TIT	245	UCI	nou		2, 2	250				·	255		
cct	cca	cca	øøt.		ggt	aat	ctt	gga		aac	agt	agg	aaa	cca	gat	816
Pro	Pro	Pro	Glv	Gly	Gly	Asn	Leu	Gly	Met	Asn	Ser	Arg	Lys	Pro	Asp	
110	110	110	260				•	265					270			
ctt	cga	gtt		atc	ccc	cct	tca	agc	aag	ggc	atg	atg	$\operatorname{cct}$	cca	cta	864
Leu	Arg	Val	Val	Ile	Pro	Pro	Ser	Ser	Lys	Gly	Met	Met	Pro	Pro	Leu	
	3	275					280					285				
tcg	gag	gaa	gag	gaa	ttg	gag	ttg	aac	acc	caa	agg	atc	agt	agt	tct	912
Ser	Glu	Glu	Glu	Glu	Leu	Glu	Leu	Asn	Thr	Gln	Arg	He	Ser	Ser	Ser	
	290					295					300					
caa	gcc	act	caa	$\operatorname{cct}$	ctt	gct	acc	cca	gtc	gtg	tct	gtg	aca	acc	cca	960
Gln	Ala	Thr	Gln	${\tt Pro}$	Leu	Ala	Thr	Pro	Val	Val	Ser	Val	Thr	Thr	Pro	
305					310					315					320	4000
agc	ttg	cct	ccg	caa	gga	ctt	gtg	tac	tca	gca	atg	ccg	act	gcc	tac	1008
Ser	Leu	Pro	Pro	Gln	Gly	Leu	Val	Tyr			Met	Pro	Thr			
				325					330					335		1056
aac	act	gat	tat	tca	ctg	acc	agc	gct	gac	ctg	tca	gcc	ctt	caa	ggc	1056
Asn	Thr	Asp			Leu	Thr	Ser			Leu	Ser	Ala	Leu	GIII	Gly	
			340					345				. +	350		റരന	1104
ttc	aac	tcg	cca	. gga	atg	ctg	tcg	ctg	gga	cag	gug	ccg	gçç Ala	USS Trr	cag	1104
Phe	Asn			Gly	Met	Leu			L GIY	(H11)	va.i	365		11 %	Gln	
		355					360		0.00	. + . +	· ^++			or or o	ወ ወ ወ ወ	1152
cag	cac	cac	cta	gga	caa	gca	, gcc	CUC	: ago	200	, 000 • Tar	, gui	, gcc Δla	ርገኒ	ggg Glv	1202
Gln			Leu	ı Gly	GIN			. Det	ı sei	. 261	380		. Alu		Gly	
	370			+	+	375		+00	. att	t aat			• เลล	1 220	atc	1200
cag	tta	tct	cag	ggu	Con	aa.	, lua	, CO1	s all	i aai	The	- Acr	, Glr	. Ast	atc alle	
		ı Ser	, GII	і ату	390		гьес	1 261	. 116	395		1101	1 4.		1 Ile 400	
385			- + o	. ~~			tos	o et	t 66'			t cet	t ate	ac	c cca	1248
ago	ato	aag Tuu	S Co.	gac . Cli	Dno	s all	, toc	. Pro	o Dr	o Are	y Asi	o Ars	z Met	Th:	r Pro	
ser	. 110	a mys	9 OC1	405		, 116	) <u>ne</u> 1	. 11	41		ر دم، ر		,	41	5	
<b>L</b>						T (1)	ፓ ቦጋና	ל ראי			g cas	g car	g cas		g ccg	1296
CCE	gg.	ს სს( "უ.	i cat	s cas	s cas	n Gli	ը ՄԱՆ Ի ՄԱՆ	s Car	n Gl	n Gil	, Մահ n [գ] ։	n G1:	n Gli	ı Pr	o Pro	
Sei	. UI	y PH	: UI	וו מזו	r GII	1 011	T (11)		M UI.	AL UI						

430 425 420 cea cea ceg cag cee cag cea caa cee ceg cag cee cag cee cga cag 1344 Pro Pro Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Arg Gln 440 435 gaa atg ggg cgc tcc cct gtg gac agt ctg agc agc tct agt agc tcc 1392 Glu Met Gly Arg Ser Pro Val Asp Ser Leu Ser Ser Ser Ser Ser 460 455 450 tat gat ggc agt gat cgg gag gat cca cgg ggc gac ttc cat tct cca 1440 Tyr Asp Gly Ser Asp Arg Glu Asp Pro Arg Gly Asp Phe His Ser Pro 475 470 465 att gtg ctt ggc cga ccc cca aac act gag gac aga gaa agc cct tct 1488 lle Val Leu Gly Arg Pro Pro Asn Thr Glu Asp Arg Glu Ser Pro Ser 495 490 485 1521 gta aag cga atg agg atg gac gcg tgg gtg acc Val Lys Arg Met Arg Met Asp Ala Trp Val Thr 505 500 <210> 15 <211> 365 <212> PRT <213> Homo sapiens <400> 15 Met Gly Arg Lys Lys Ile Gln Ile Ser Arg Ile Leu Asp Gln Arg Asn 10 1 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys Ala 25 20 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile Phe 40 35 Asn Ser Ala Asn Arg Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp Arg 55 Val Leu Leu Lys Tyr Thr Glu Tyr Ser Glu Pro His Glu Ser Arg Thr 75 70 65 Asn Thr Asp Ile Leu Glu Thr Leu Lys Arg Arg Gly Ile Gly Leu Asp 90 85 Gly Pro Glu Leu Glu Pro Asp Glu Gly Pro Glu Glu Pro Gly Glu Lys 105 100 Phe Arg Arg Leu Ala Gly Glu Gly Gly Asp Pro Ala Leu Pro Arg Pro

		115					120					125			
Δrø	Leu	Tvr	Pro	Ala	Ala	Pro	Ala l	Met	Pro	Ser	Pro	Asp	Val	Val	Tyr
	130					135					140				
Gly	Ala	Leu	Pro	Pro	Pro	Gly	Cys	Asp	Pro	Ser	Gly	Leu	Gly	Glu	Ala
1 15					150					155					100
Leu	Pro	Ala	Gln	Ser	Arg	Pro	Ser	Pro	Phe	Arg	Pro	Ala	Ala	Pro	Lys
				165					170					110	
Ala	Gly	Pro	Pro	Gly	Leu	Val	His	Pro	Leu	Phe	Ser	Pro	190	піз	neu
			180			_	_	185	<b>.</b>	Duc	<b>π</b> L =	Calan		Δνσ	Arg
Thr	Ser	Lys	Thr	Pro	Pro	Pro	Leu	Tyr	Leu	Pro	1111	205	uly	m 6	231 6
		195		~ 1	47	T	200	C1	Dno	Ana	Glv		Leu	Asn	Thr
Ser			Pro	Gly	GIY	215	Ala	GIA	110	VI P	220	41,			
^	210		Tan	Tyr	Car	Clv	Len	Gln	Asn	Pro			Thr	Ala	Thr
		261	. Ten	1 1 1 1	230		Бос	~ ~ ~ ~		235	;				240
225	. (1) v	, 'Drc	Pro	Len	Gly	Ser	Phe	Pro	Phe	Let	ı Pro	Gly	Gly	Pro	Pro
				245					250	)				200	)
Val	Gly	, Ala	ı Glu	ı Ala	Trp	Ala	Arg	Arg	Va.	Pro	Gli	Pro	Ala	a Ala	Pro
			260	)				265	)				211	,	
Pro	Arg	g Arg	g Pro	Pro	Glr	Ser	· Ala	Ser	, Sei	r Lei	ı Sei	r Ala	a Sei	r Lei	ı Arg
		27!	5				280					Za	)		
Pro	o Pro	o Gl	y Ala	a Pro	Ala			Lei	ı Arı	g Pr	o Se:	r Pro n	) 11	6 110	o Cys
	29	0		_	_	295	)	. т	. O.	a 01	30 77 To		v Pr	o Pr	o Cvs
		r Pr	o GI	y Pro			ı sei	. Te	u vy	3 u i	, <u>п</u> о 5	u u .	,	- • -	o Cys 320
30	5	0	<b>D</b> -	. Ф	31	ሀ <sub>ጉ</sub> ጥ ከ	n Ala	. ርነ	v Pr			g Ar	g Se	r Pr	o Gly
Al	a Gl	у Су	s Pr	325		0 111.	L Alc	, u.,	33	0	. J	•	_	33	5
0.1	ጥ <b>አ</b>	n 90	n Dn	32. G1:	u Ar	g Se	r Pro	o Gl			a Ar	g Al	a Ar	g Gl	y Asp
GΙ	y 111	I. De	34		W 211	<i>a</i> ~ •		34	5				35	50	
Dr	<sub>ነብ</sub> ፕት	ır Se	er Le	u Gl	n Al	a Se	r Se	r Gl	u Ly	s Th	r G	ln G1	.n		
11	0 11	35					36	0					•		
<2	210>	16													
		1099	5												
<2	212>	DNA													
<'	213>	Hom	o saj	piens	5										
<:	220>														

<221>	CDS	S										•				
<223>	(1)	)(	1098	)									,			
<400>	16									-4-	-4-	~~~	000.	0 <b>0</b> 0	aat	48
atg g	gg a	agg	aaa	aaa	atc ·	cag	atc	tcc	cgc	atc	ctg	gac	Cla Cla	Ana	aat Aen	10
Met G	ly .	Arg	Lys		Ile	Gln	He	Ser	Arg	He	Leu	Asp	AIII	Arg 15	VOII	
1				5		•			10		-+-	0+m	224		det.	96
cgg c	ag	gtg	acg	ttc	acc	aag	cgg	aag	DJ.	ggg	CLE	Mot	lve	Lve	Δla	00
Arg (	lln	Val		Phe	Thr	Lys	Arg		rne	GIY	теп	Mer	30	цуз	niu	
		•	20					25		-4-	<b></b>	ete		atc.	tte	144
tat g	gag	ctg	agc	gtg	ctc	tgt	gac	Tgt O	gag	ala	Ala	TAII	Ile	Ile	ttc . Phe	
Tyr (	Glu		Ser	Val	Leu	Cys		Cys	GIU	116	Ala	45	110	110	THO	
		35	٠.	,			40			- ~ ^	200		ato	gar	cet.	192
aac a	agc	gcc	aac	cgc	ctc	ttc	cag	tat	gcc	age	The	Acn	Mot	Asp	Arg	
Asn		Ala	Asn	Arg	Leu		GIN	Tyr	Ala	261.	60	. ASP	Hec	иор.	111 0	
	50					55						ರವರ	a or c	cgc	acc	240
gtg	ctg	ctg	aag	tac	aca	gag	tac	agc	gag	Doo	Ude	611	Car	Δrø	Thr	
Val :	Leu	Leu	Lys	Tyr		Glu	Tyr	Ser	GIU	75	nis	oru	per	m &	80	
65					70		·					2++	886	ctc		288
aac	act	gac	atc	ctc	gag	acg	ctg	aag	cgg	agg Ang	.gg∪ .nl.	ם בוו	Glv	Len	Asp	
Asn	Thr	Asp	He		Glu	Thr	Leu	гуs	WI.8	Arg	GIY	116	αŢĴ	95	Asp	
				85					90		. 424	CCA	o o o			336
ggg	cça	gag	ctg	gag	ccg	gat	gaa	ggg	וטט ממת	, <b>ga</b> g . Clu	6 646 6 610	Pro	Glv	, Gli	aag Lvs	•••
Gly	Pro	Glu			Pro	Asp	GIU	10g	Pre	) (31)	i uiu	1110	110	)	Lys	
			100					105		- 001		. ++a			000	384
ttt	¢gg	agg	ctg	gca	ggc	gaa	ggg	ggu - na-	, gal	L CCE	5 BUU	, cce	, ccc Dro	) Are	ccc Pro	000
Phe	Arg			Ala	Gly	Glu			' ASI	) 11(	) MIC	125		, 111 G	g Pro	
		115	)			4	120			a a a	0 009			e eta	a tac	432
cgg	ctg	tat	cct	gca	ı gct	CCT	ger	L alle	יטט צ	c co	n Dra	ι βαι Αστ	. Бо Va	5 50. 1 Va	a tac 1 Tvr	
Arg	Leu	Туг	Pro	Ala	ı Ala			a Mei	C PI	0 26.	140	J TevroF	γα	r va.	l Tyr	
	130	)				135					_		- oron	or ora	ი თიი	480
ggġ	gcc	tta	a cce	g cca	a cca	gg	c tg	t gad	c cc	c ag	C gg:	g 66	. 65.	g ga.	a gca	
Gly	Ala	ı Let	u Pro	) Pro			у, Су:	s As	p Pr	o se	r 61)	у ге	u ui	y ur	u Ala 160	
145					150					15	-		- ~0			528
ctg	ccc	gc	c cas	g ag	c cg	c cc	a tc	t cc	c tt	c cg	a cc	a gc	a gc	o D∽	c aaa	
Leu	Pro	) Al	a Gl	n Se	r Ar	g Pr	o Se	r Pr	o Ph	e Ar	g Pr	o Al	a Al	a rr	o Lys	
				16	5				17	U				17	Ų	

	to oto cac cct (	to tto tea cea age cac etc 57	6
Ale Cly Dro Dro Gly L	en Val His Pro l	Leu Phe Ser Pro Ser His Leu	
180	185	190	
ace age aag aca cca c	cc cca ctg tac	etg ccg acg gaa ggg cgg agg 62	24
The See Lys The Pro P	ro Pro Leu Tyr	Leu Pro Thr Glu Gly Arg Arg	
195	200	205	
tea gae etg eet ggt g	gc ctg gct ggg	CCC CET 888 884 COM THE	72 .
Ser Asp Leu Pro Gly (	Bly Leu Ala Gly	Pro Arg Gly Gly Leu Asn Thr	
210	215	220	
tec aga age etc tac a	agt ggc ctg cag	dat the ten too man are	20
Ser Arg Ser Leu Tyr	Ser Gly Leu Gln	Asn Pro Cys Ser Thr Ala Inr	
225	230	235 240	00
ccc gga ccc cca ctg	ggg agc ttc ccc	100 000 000 88m 880 are	68
Pro Gly Pro Pro Leu	Gly Ser Phe Pro	Phe Leu Pro Gly Gly Pro Pro	
245		250	1.0
gtg ggg gcc gaa gcc	tgg gcg agg agg	BUC CCC CAM COO BOB BOB	16
Val Gly Ala Glu Ala	Trp Ala Arg Arg	Val Pro Gin Pro Ala Ala Fio	
260	265	270	864
ccc cgc cga ccc ccc	cag tca gca tca	age ceg age acc acc acc	004
Pro Arg Arg Pro Pro		Ser Leu Ser Ala Ser Leu Arg	
275	280	285	912
ccc ccg ggg gcc ccg	gcg act ttc cta	aga cot too oo allo o	714
Pro Pro Gly Ala Pro		Arg Pro Ser Pro Ile Pro Cys	
290	295	300	960
tcc tcg ccc ggt ccc	tgg cag agc ctc	TEC BEC COP PEO OCE STEE	000
Ser Ser Pro Gly Pro		Cys Gly Leu Gly Pro Pro Cys	*
305	310	010	1008
gcc ggc tgc cct tgg	ccg acg gct ggc	CCC 881 MBB MBM DOT - 11 00	1000
		Pro Gly Arg Arg Ser Pro Gly	
325	_	000	1056
ggc acc agc cca gag	cgc tcg cca gg	, ace see as see on the	
	Arg Ser Pro GI	Thr Ala Arg Ala Arg Gly Asp	
340	345	,	1095
ccc acc tcc ctc cag	gcc tct tca gag	g aag acc caa cag	1000
Pro Thr Ser Leu Gln		1 Lys Inr Gin Gin 365	
355	360	300	

<210>	> 17		•												
<211															•
<212															
			apie	ns										,	
<400	> 17		<b>-</b>	T	17.	01n	Ilo	Thr	Δrσ	īle	Met.	Asp	Glu <i>i</i>	Arg .	Asn
	Gly	Arg	ГÀ2	ьуs 5	116	GIII	116	1111	10	110				15	
1	<u>۳</u> ۱.,	ו מנו	Thn	Dha	Thr	I.vs	Arg	Lvs		Gly	Leu	Met	Lys !	Lys	Ala
Arg	GIII	۷dI	20	Inc		<i>D</i> , 0	***************************************	25		-			30		
Tyr	Glu	Leu 35	Ser	Val	Leu	Cys	Asp 40		Glu	Ile	Ala	Leu 45	Ile	Ile	Phe
A on	Sar	Thr	Asn	Lvs	Leu	Phe		Tyr	Ala	Ser	Thr	Asp	Met	Asp	Lys
	50					55					60				
Val	Leu	Leu	Lys	Tyr	Thr	Glu	Tyr	Asn	Glu	Pro	His	Glu	Ser	Arg	Thr
65					70					75					80
Asn	Ser	Asp	Ile	Val	Glu	Thr	Leu	Arg	Lys	Lys	Gly	Leu	Asn	Gly	Cys
				85					90					90	
Asp	Ser	Pro	Asp	Pro	Asp	Ala	Asp	Asp	Ser	Val	Gly	His	Ser	rro	GIG
	4		100			_	- 4	105		4	110	Acn	110	Met	Ile
Ser	Glu			Tyr	Arg	Lys			GIU	Asp	116	125	Leu	1100	
		115		_		43.	120	Dno	Dno	Dno	λon			Met	Pro
Ser			Arg	Lev	Cys			rrc	rro	ric	140	, 1,110	o.u		Pro
	130	)		37 - T	0	135	. Uic	Аст	Ser	Ler			Ser	Asn	Pro
		116	Pro	) va.ı	150 150		1113	, War	1 501	155	i	<b>v</b> _			160
145	· .	0	- 101	. 0.1.	7 Act	, Pre	A er	Lei	ı Let			ı Ala	His	Pro	Ser
Val	Sei	. Sei	i. Per	165		1 110	, ,,,,,,,	, ,,,,,,,	170	)	-			175	5
T 0.	. 61,	n Are	r Ası	n Se	r Me	t. Sei	r Pro	Gl:			r His	s Are	g Pro	Pro	) Ser
bec	) GT	ı mı	5 ASI					18	5				190	)	
۸٦٤	s Gl	v As	n Th	r Gl	v G1:	y Lei	u Me	t Gl	y Gl	y As	p Le	u Thi	r Ser	Gl:	y Ala
		19	5				20	0				ZU	อ		
<b>61</b> -	v Th	r Se	r Al	a G1	y As	n Gl	у Ту	r Gl	y As	n Pr	o Ar	g Asi	n Sei	r Pr	o Gly
	21	Ŋ				21	5				22	U			
Le	u Le	u Va	l Se	r Pr	o Gl	y As	n Le	u As	n Ly	s As	n Me	t Gl	n Al	a Ly	s Sei
22	5				23	0				23	35				240
Pr	o Pr	o Pr	o Me	t As	n Le	u Gl	у Ме	t As	n As	n Ar	g Ly	s Pr	o As	p Le	u Arg

				245				,	250	i				255	
Val	וום ז	Ιlο	Pro	Pro	Gly	Ser	Lys	Asn	Thr	Met	Pro	Ser	Val	Asn	Gln
үат	Pea	110	260	110	w-v		_•	265					270		
Arø	He	Asn	Asn	Ser	Gln	Ser	Ala	Gln	Ser	Leu	Ala	Thr	Pro	Val	Val
		275					280					285			
Ser	Val	Ala	Thr	Pro	Thr	Leu	Pro	Gly	Gln	Gly	Met	Gly	Gly	Tyr	Pro
	290					295					300				٠
Ser	Ala	Ile	Ser	Thr	Thr	Tyr	Gly	Thr	Glu	Tyr	Ser	Leu	Ser	Ser	Ala
305					310					315					320
Asp	Leu	Ser	Ser	Leu	Ser	Gly	Phe	Asn	Thr	. Ala	Ser	Ala	Leu	His	Leu
				325					330					330	
Gly	Ser	Val	Thr	Gly	Trp	Gln	Gln	Gln	His	Leu	His	Asn	Met	Pro	Pro
			340			•		345			1	77.4	350	Com	Δln
Ser	Ala	Leu	Ser	Gln	Leu	Gly		Cys	Thr	Ser	Thr	HIS	Leu	Set.	6111
		355		Ē			360	1	a *		7	365		Two	Car
Ser	Ser	Asn	Leu	Ser	Leu			Thr	Gln	Ser	Leu	ASII	116	гус	9¢1
	370					375				. ምጌ	380 mhm		. 502	Δησ	Tvr
Glu	Pro	Val	Ser	Pro			Asp	Arg	ım	395	. 1111		, GCI	VI P	Tyr 400
385			_		390		41.	C1				. Val	Agn	Ser	
Pro	Gln	His	Thr			Glu	l Ala	. Gly	41(	, Per	LIC	, ,01	. Asp	415	Leu
		_	·a	405	α	Φ		ር ነ ነ			λro	r Gli	ı Asr		
Ser	Ser	Cys			Ser	ıyı	' ASL	425	961	, AS	, m s	, u.	430	)	Arg
	~ 1	ъ1	420	) 	Dwa	. 11/	. G1:			r Arı	r Pro	Sei			Glu
Ası	ı GII			s per	. Pro	) 110	44(				,	44	ว์ วั		
	<b>G</b> 1	43	) - Dm	- 601	. Val	T 324			- Ar	e Le	ıı Sei			7 Tr	p Ala
Ar			r Pro	) sei	· va.	45		, 110	U 111	<b>5</b> , <b>2</b> °	46	0			
ml.	450	J				TU	J								
Th	r 10>	1 Q													
	10> 11>														
	112>														
			san	iens											
	20>	Y Y COMP	Jup	_ 0110											
	21>	CDS													
			.(13	98)											
	100>		.,	•											

	40
atg ggg aga aaa aag att cag att acg agg att atg gat gaa cgt aac	<b>4</b> 8
Met Gly Arg Lys Lys Ile Gln Ile Thr Arg Ile Met Asp Glu Arg Asn	
aga cag gtg aca ttt aca aag agg aaa ttt ggg ttg atg aag aag gct	96
Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys Ala	
	144
tat gag ctg agc gtg ctg tgt gac tgt gag att gcg ctg atc atc ttc	
Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile Phe	
35	192
aac agc acc aac aag ctg ttc cag tat gcc agc acc gac atg gac aaa	105
Asn Ser Thr Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp Lys	
50 55	940
gtg ctt ctc aag tac acg gag tac aac gag ccg cat gag agc cgg aca	240
Val Ley Ley Lys Tyr Thr Glu Tyr Ash Glu Pro His Glu Ser Arg im	
65 70 75	
and the gar atc gtg gag acg ttg aga aag aag ggc ctt aat ggc lgl	, 288
Asn Ser Asp Ile Val Glu Thr Leu Arg Lys Lys Gly Leu Asn Gly Cys	•
85 90 95	
gac age cea gac eec gat geg gac gat tee gta ggt cac age eet gag	g 336
Asp Ser Pro Asp Pro Asp Ala Asp Ser Val Gly His Ser Pro Gly	1
tet gag gae aag tac agg aaa att aac gaa gat att gat eta atg ate	c 384
Ser Glu Asp Lys Tyr Arg Lys Ile Asp Glu Asp Ile Asp Leu Met Ile	e
400	
115	a 432
age agg caa aga ttg tgt gct gtt cca cct ccc aac ttc gag atg cc	O
Ser Arg Gln Arg Leu Cys Ala Val Pro Pro Pro Asn Phe Glu Met Pr	
13(1 100	t 480
gte tee ate cea gtg tee age cae aac agt ttg gtg tae age aac ce	
Val Ser Ile Pro Val Ser Ser His Asn Ser Leu Val Tyr Ser Asn Pr	20
145 150 155	, 0
gtc agc tca ctg gga aac ccc aac cta ttg cca ctg gct cac cct tc	
Wal Ser Ser Leu Gly Asn Pro Asn Leu Leu Pro Leu Ala His Fro Se	et.
165 170 173	
eta cag agg aat agt atg tot oot ggt gta aca cat cga cot coa ag	gt 576
Leu Gln Arg Asn Ser Met Ser Pro Gly Val Thr His Arg Pro Pro So	er
105	
180	

gca	ggt	aac	aca	ggt	ggt	ct	at	g gg	t g	ga	gac	ctc	acg	to	t g	ggt	gc A 1	a	624
Ala	Gly		Thr	Gly	Gly	Leu	ı Me <sup>.</sup> 20	t GI	<b>y</b> G	lly .	Asp	Leu	1nr 205	96	er (	3 T Å	ŢĻ	,a	
		195		ggg	220	ďď			rc 2	at.	ccc	cga		to	ca (	cca	gg	gt	672
ggc	acc	agt	gca	ggs Gly	aac Aen	554 G1-	ς τα σ Τυ	r Gl	v	lsn	Pro	Arg	Asn	So	er l	Pro	G	lу	
	210					21	5					220							720
ctg	$\operatorname{ctg}$	gtc	tca	cct	ggt	aa	c tt	g aa	ac a	aag	aat	atg	caa	. g	ca 1	aaa Tur	9	on On	120
225				Pro	230	)					235						4	40	4
cct	ccc	cca	ate	g aat	tta	. gg	a at	g a	at a	aac	cgt	aaa	cca	g	at	ctc	C	ga	768
Pro	Pro	Pro	Met	Asr 245	Lei	ı Gl	у Ме	t A	sn .	Asn 250	Arg	Lys	Pro	A	sp	Leu 255	A	rg	
σ++	ctt	att	cca	a cca	a. gg(	ae	c aa	ıg a	at	acg	atg	cca	. tca	ı g	tg	aat	С	aa	816
Val	Len	He	Pro	o Pro	o G1:	y Se	r Lj	rs A	sn	Thr	Met	Pro	Se	r V	al	Asn	G	ln	
			260	0				2	65					2	770				
ลฮฮ	ata	aat	aa	c te	e ca	g to	gg	ct c	ag	tca	ttg	gct	acı	c c	ca	gtg	;	tt	864
Arg	Ile	Asr	Ası	n Se	r Gl	n Se	er A	la G	ln	Ser	Leu	Ala	Th	r F	ro	Val	. \	al	
		275	5				2	80					28	5					010
tcc	gta	gca	a ac	t cc	t ac	t t	ta c	cag	ga	caa	gga	ate	gg	a g	gga	tat	t (	ca	912
Ser	Val	Ala	a Th	r Pr	o Th	r L	eu P	ro (	ly	Gln	Gly	7 Me1	C GI	у (	ily	Туз	ר ו	ro	
	290	)					95					300					<b>L</b>		960
tca	gco	at	t tc	a ac	a ac	a t	at g	gt a	icc	gag	tao	c tc	t ct	g	agt	ag	ե չ -	gca	900
Ser	Ala	ı Ile	e Se	r Th	r Th	r T	yr G	ly	ľhr	Glu	ı Tyl	r Sei	r Le	u	ser	5e.	r .	320	
308	ō				31						31			_	_ 4-+				1008
ga	c ct	g to	a to	t ct	g to	t g	gg t	tt :	aac	acc	gc	c ag	cgc	i.	CLL	. ca	C C	LOU	1000
Asj	p Let	u Se	r Se	er Le		er G	ly F	he .	Asn	Thr	AL	a se	r Aj	,d	ьeu	33	ა 5	псп	
				32	25					330			+ ~		a t a			cca	1056
gg	t to	a gt	a. ac	et g	go ta	gg C	aa (	ag	çaa	cao	C CL	а са и:	.L a.c	10	Mot	, cc - Dr	·α ·Λ	Pro	1000
Gl	y Se	r Va		ar G	ly T	rp (	iln (	iln	GIN	. нт	s Le	и пт	S As	511	350	, 11 1	•	110	
			34	40		_			345		+ ^~		+ ~	a <del>t</del>			· <del>†</del> .	cag	1104
tc	t gc	c ct	c a	gt c	ag t	tg g	ga (	gct	tgc	ac mb	r ag	o ac orth	r H	a u i e	Lei	1 Se	יוי	Gln	
Se	r Al			er G	in L	eu (			Cys	111	1. 26	1 11.	ر 11 11	65	ъс.	_ <b>_</b>	•	V 111	
		35	55			,		360	4 م		a no	ra at			ati	e aa	1.g	tca	1152
ag	t tc	a aa	at c	tc t	cc c	tg (	cct '	CCT	act	. נמ . תו	a at	so ol sn Ta	LU AL	GU.	11.	e Ly	~o VS	Ser	
Se			sn L	eu S	er L			ser	IIII	. (11	11 126	יש גב יש גב	30 30	JII	11	J 11.	, ,		
	37	70					375					J							

															~ ~	+-		1200
gaa	cct	gtt	tct	cct	cct	aga	gac	cgt	acc	acc	acc	CC	: T T	cg Som	dga	, ሀረ · ጥ	ic m	1200
Glu	Pro	Val	Ser	Pro		Arg	Asp	Arg	Thr	Thr	Thr	· PI	.0 9	eı.	Arg	. 13	00	
385					390					395			+ ^	•••	200			1248
cca	caa	cac	acg	cgc	cac	gag	gcg	ggg	aga	tct	CCI	, gr	il E	ac	ag v	. U	v6 913	1210
Pro	Gln	His	Thr	Arg	His	Glu	Ala	Gly	Arg	Ser	Pro	) 18	31 P	72ħ	418	. u	u	
			•	405					410		0.000		o. (	rat			a.a.	1296
agc	agc	tgt	agc	agt	tcg	tac	gac	ggg	agc	gac	Uga And	age ~ C	15 8 111 <i>1</i>	sau Aen	His	ο Δ	oo rg	
Ser	Ser	Cys		Ser	Ser	Tyr	Asp	Gly	5er	ASP	, WLS	5 U	ıu 1	13P 430	111.	J 11		
,			420					425				· + · +			ga.	<b>Λ · δ</b>	ลล	1344
aac	gaa	ttc	cac	tcc	ccc	att	gga	. ctc	acc	aga	. Dr		og i	Dro Dro	Ac	n G	lu	
Asn	Glu			Ser	Pro	ile			I Ini	, Al.a	, rr	נט וא	45	1 10	1,0	r •	1	
		435					440			++	- tc			<b></b>	†ø	gr g	ca	1392
agg	gaa	agt	ccc	tca	gto	aag	cgo	are M-4	cge	, CUI	יטני ביצייני	r G	lii	Glv	Tr	n A	lla:	
Arg			Pro	Ser	· val			Me	L Ale	y ner	46	n .	14	uly		r ·		
	450	)				455	)		•		40	U						1395
aca													•					•
Thr					•													
465																		
	0> 1		•															
	1> 5																	
	.2> I		ao 10	ione														
			20h	iens														
<4(	00> :	An	or Tay	s Ly	e Il	e G1	n II	e Gl	n Ar	g Il	e T	hr.	Asp	Gl	u A	rg	Asn	
	L GI.	y AI',	g LJ		5			•	1	.0						15		
٠.	l m Cl	n Va	1 Th	r Ph	e Th	r Lv	s Ar	g Ly			уĽ	eu	Met	Lу	s L	уs	Ala	
Art	g ui	п ча		.0				2	25					3	0			
Тч.	~ GI	11 To	n Se	r Va	ı Le	en Cv	rs As			lu II	le A	la	Leu	11	e I	le	Phe	
1 y	1. OI		5 5	,, ,,			4	£0					45					
٨٥	n Цi	s Se	Δ.s	sn Ly	75 L6	eu Pl	ne G	n T	yr A	la So	er T	hr	Asp	Me	et A	sp	Lys	
No.		.3 UC	/1 II	,,,	~		55					60		•	٠			
Va	1 Te	11 T.E	r.T. 114	ys T	vr Tl	or Gi	lu Ty	yr A	sn G	lu P	ro E	lis	Glu	ı Se	er A	lrg	Thr	
	.1 be	να π <i>ι</i>	, u D	, 🗢 🛨		70	•			1	75						80	
۸ -	n ∧1	la A	sn T	le I	le G	lu T	hr L	eu A	rg L	ys L	ys (	lly	Phe	e As	sn (	Зlу	Cys	
ΛS	on A	LU 114	YP I		85				-	90						95		
۸۵	en Se	er Pi	ro G			sp G	ly G	lu A	sp S	er L	eu (	Ilu	Gli	n S	er 1	Pro	Leu	

Leu Glu Asp Lys Tyr Arg Arg Ala Ser Glu Glu Leu Asp Gly Leu Phe Arg Arg Tyr Gly Ser Thr Val Pro Ala Pro Asn Phe Ala Met Pro Val Thr Val Pro Val Ser Asn Gln Ser Ser Leu Gln Phe Ser Asn Pro Ser Gly Ser Leu Val Thr Pro Ser Leu Val Thr Ser Ser Leu Thr Asp Pro Arg Leu Leu Ser Pro Gln Gln Pro Ala Leu Gln Arg Asn Ser Val Ser Pro Gly Leu Pro Gln Arg Pro Ala Ser Ala Gly Ala Met Leu Gly Gly Asp Leu Asn Ser Ala Asn Gly Ala Cys Pro Ser Pro Val Gly Asn Gly Tyr Val Ser Ala Arg Ala Ser Pro Gly Leu Leu Pro Val Ala Asn Gly Asn Ser Leu Asn Lys Val Ile Pro Ala Lys Ser Pro Pro Pro Pro Thr His Ser Thr Gln Leu Gly Ala Pro Ser Arg Lys Pro Asp Leu Arg Val Ile Thr Ser Gln Ala Gly Lys Gly Leu Met His His Leu Thr Glu Asp His Leu Asp Leu Asn Asn Ala Gln Arg Leu Gly Val Ser Gln Ser Thr His Ser Leu Thr Thr Pro Val Val Ser Val Ala Thr Pro Ser Leu Leu Ser Gln Gly Leu Pro Phe Ser Ser Met Pro Thr Ala Tyr Asn Thr Asp Tyr Gln Leu Thr Ser Ala Glu Leu Ser Ser Leu Pro Ala Phe Ser Ser Pro Gly Gly Leu Ser Leu Gly Asn Val Thr Ala Trp Gln Gln Pro Gln Gln Pro Gln Gln Pro Gln Pro Gln Pro Pro Gln Gln Gln Pro Pro Gln Pro Gln Gln Pro Gln Pro Gln Pro Gln Gln Pro Gln Gln Pro

200	395 400
385 390 Win You Wol. Pro V	
Pro Gln Gln Gln Ser His Leu Val Pro	410 415
Pro Gly Ser Pro Leu Pro His Val Gly	10
420 425 His Pro His Ile Ser Ile Lys Ser Glu	
Arg Ser Pro Ala Pro Pro Pro Ala	
Glu Pro Gly Asp Gly Leu Ser Ser Pro	Ala Gly Gly Ser Tyr Glu Thr 475 480
Gly Asp Arg Asp Asp Gly Arg Gly Asp	490
Leu Arg Pro Ala Pro Glu Pro Glu Ala 500 505	Glu Gly Ser Ala Val Lys Arg 510
Met Arg Leu Asp Thr Trp Thr Leu Lys 515 520	· · · · · · · · · · · · · · · · · · ·
<210> 20	•
<211> 1563	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> CDS	
<223> (1)(1566)	
<400> 20	ore at a acc gar gag age aac 48
atg ggg agg aaa aag att cag atc cag	cga atc acc gac gag cgg aac 40
Met Gly Arg Lys Lys Ile Gln Ile Glr	Arg He Inr Asp Gid Arg Ash
1 5	10
cga cag gtg act ttc acc aag cgg aag	ttt ggc ctg atg aag aag gcg
Arg Gln Val Thr Phe Thr Lys Arg Lys	s Phe Gly Leu Met Lys Lys Ala
20 $2!$	30
tat gag ctg agc gtg cta tgt gac tg	c gag and sea coo and and
Tyr Glu Leu Ser Val Leu Cys Asp Cy	s Glu lle Ala Leu lle lle lle
35 40	40
aac cac tee aac aag etg tte cag ta	C gcc agc acc buo mis one
Asn His Ser Asn Lys Leu Phe Gln Ty	r Ala Ser Inr Asp met Asp Lys

	50					55					60							
gt.g	ctø	ctc	aag	tac	acg	gag	tac	aat	gag	cca	cac	gag	aį	gc (	cgc	ac	С	240
Val	Leu	Leu	Lys	Tyr	Thr	Glu	Tyr	Asn	Glu	Pro	His	Glu	S	er .	Arg	In	r	
65					70					75						O	U	
aac	gcc	gac	atc	atc	gag	acc	ctg	agg	aag	aag	ggc	tte	a	at	ggc	tg	c	288
Asn	Ala	Asp	Ile	I1e	Glu	Thr	Leu	Arg	Lys	Lys	Gly	Phe	A	sn	иту	Су	<b>'</b> \$	
				85					90						95			***
gac	agc	ccc	gag	ccc	gac	ggg	gag	gac	tcg	ctg	gaa	cae	g a	gc	ccc	ct	g	336
Asp	Ser	Pro	Glu	Pro	Asp	Gly	Glu	Asp	Ser	Leu	Glu	Gli	1 9	er.	Pro	Le	eu	
			100					105					1	10				004
ctg	gag	gac	aag	tac	cga	cgc	gcc	agc	gag	gag	ctc	ga	c g	gg	ctc	t1	tc	384
Leu	Glu	Asp	Lys	Tyr	Arg	Arg	Ala	Ser	Glu	Glu	Leu	( AS	pυ	ly	Leu	P	ne	
		115					120					12	D					400
cgg	cgc	tat	ggg	; tca	. act	gtc	ccg	gcc	ccc	aac	ttt	gc	c a	atg	cct	g	tc	432
Arg	Arg	Tyr	Gly	ser Ser	Thr	Val	Pro	Ala	Pro	Asn	Phe	e Al	a N	1et	Pro	γ.	aı	
	130					135					140	)						100
acg	gtg	ccc	gts	tcc	aat	cag	agc	tca	ctg	cae	; tte	ag	c a	aat	CCC	) a	gc 	480
Thr	Val	Pro	Va.	Ser	· Ası	Gln	Ser	Ser	Leu	ı Glr	Ph	e Se	r	Asn	Pro	) S	eı.	
145					150	)				155	)					7	υO	528
ggc	tcc	cts	g gto	c acc	c cct	t tee	ctg	gte	aca	i tea	ı tc	c ct	c	acg m-	gac	; c	ecg Poo	· 04 <b>Q</b>
Gly	Ser	Let	ı Va	l Thi	r Pro	s Ser	Let	[Va]			r Se	r Le	u	ınr	ASI	pr	TO	
				16	5				170					~ ~ <del>1</del>	179		· a +	576
cgg	g cto	ct	g tc	c cc	c ca	g cas	g cca	gca	a cta	a ca	g ag	gaa	1C	agu	g Q	g (	lou Zon	010
Arg	g Lei	Le	u Se	r Pr	o Gl	n Gli	a Pro	) Ala	a Lei	u GI	n Ar	g As	sn	961	va.	1 ,	oer.	
			18	0				18					<b>L</b>	190		~ .	rat	624
cc	t ggo	c ct	g cc	c ca	g cg	g cç	a gc	t ag	t gc	g gg	ggc	c a	ւց	CUE	, 65 , 71	8 8 17 1	55 U 21 v	027
Pre	o Gl	y Le	u Pr	o Gl	n Ar	g Pr	o Ala	a Se	r Al	a Gl	y Al	a.M	et oe	Per	1 GI	y	a i y	
		19	5				20	0					05	-4-4	T 00	+	aa v	672
ga	c ct	g aa	.c ag	t gc	t aa	.c gg	a gc	c tg	c cc	c ag	)O O(	t g	TT.	gg:	g aa		GIV.	012
As	p Le	u As	n Se	er Al	a As	n Gl		a Cy	s Pr	o Se	r Pi	ro V	aı	GI,	y AS	<b>)</b> 11	uly	
	21	0				21					. 27			~ ~		÷	or or or	720
ta	.c gt	с ав	st go	et ce	g go	t to	c cc	t gg	c ct	c ct	0 00	ct g	tg 7-1	ge	c de	1.U	680 61v	100
Ту	r Va	l Se	er A	la Ar	g Al	la Se	r Pr	o G1	y Le	u Le	eu P	ro v	aı	AI	a As	511	240	
22	15				23		•			23					a a	٥ŧ		768
aa	ic ag	c ct	ta a	ac aa	ag gʻ	tc at	c co	t go	c aa	ig to	CT C	cg (	:cc	CC	a C	0 U	The	
As	sn Se	er Le	eu A	sn L	ys Va	al II	le Pr	o A.	la Ly	75 S	er P	ro i	(1,0	rı'	U F	ĽU	1111	

				245					250					255		
			cag													816
His	Ser	Thr	Gln	Leu	Gly	Ala	Pro	Ser	Arg	Lys	Pro	Asp		Arg	Val	
			260					265					270			
			cag													864
Ile	Thr	Ser	Gln	Ala	G1y	Lys	Gly	Leu	Met	His	His		Thr	Glu	Asp	
		275					280					285				0.4.0
			$\operatorname{ctg}$													912
His	Leu	Asp	Leu	Asn	Asn	Ala	Gln	Arg	Leu	Gly		Ser	Gln	Ser	Thr	
	290					295					300					000
			acc													960
His	Ser	Leu	Thr	Thr		Val	Val	Ser	Val		Thr	Pro	Ser	Leu		
305					310					315		,			320	1000
			ctc													1008
Ser	Gln	Gly	Leu		Phe	Ser	Ser	Met		Thr	Ala	Tyr	Asn		Asp	•
				325					330				1.1.1	335	+	1056
			acc													1056
Tyr	Gln	Leu	Thr	Ser	Ala	Glu	Leu		Ser	Leu	Pro	Ala	350	SC1.	per.	
			340		. 4		~ ~ 40	345	~ ^+	~^^	+ ~~	000		002	രമന്	1104
			ctg													
Pro	Gly		Leu	26L	Leu	GIÀ	360		1111.	Ala	пр	365	OTI	110	ulli	
		355				000			act	cca	്രമത		cag	cca	cce	1152
															ccg Pro	1102
GIN		ATII	GIII	PPO	GIII	375	rro	UIII	110	110	380		um	1.0	110	
	370	000	000	000	<b>00</b> T		രാഗ	് നമ്	cct	cag			caa	cag	cca	1200
Cag	Dno	Cag	Cag	Dro	Cln	Dro	GIn	Gln	Pro	G1n	Gln	Pro	Gln	Gln	Pro	
385		UIM	UIII	110	390		.VIII	. 4111	110	395					400	
		രാമ	റമന്	tec			etc	cct.	gta			ago	aac	cto	atc	1248
															lle	
FFO	0111	UIII	. UIII	405		пси	, , ,		410					415		
000	date	200	ccc			cac	gt.g	eet			cto	aca	gto		acc	1296
															Thr	
110	uly	net	420		. 110		. ,	425				<del>-</del>	430			
020		(20			ato	: ลลต	tea			gte	tco	cca			gag	1344
															g Glu	
1115	, , , , ,	, 1112	110	, 50,	110	, пја		3.40						_	-	

		435					440					445				
ege			gcg	cct	ccc	cct	cca	gct	gtg	ttc	cca	gct	gcc	cgc	cct	1392
Arg	Ser	Pro	Ala	Pro	Pro	Pro	Pro	Ala	Val	Phe	Pro	Ala	Ala	Arg	Pro	•
0	450					455					460					
gag	cct	ggc	gat	ggt	ctc	agc	agc	cca	gcc	ggg	gga	tcc	tat	gag	acg	1440
			Asp													
465					470					475					480	
gga	gac	cgg	gat	gac	gga	cgg	ggg	gac	ttc	ggg	ccc	aca	ctg	ggc	ctg	1488
Gly	Asp	Arg	Asp	Asp	Gly	Arg	Gly	Asp	Phe	Gly	Pro	Thr	Leu	Gly	Leu	
				485					490					495		
ctg	cgc	cca	gcc	cca	gag	$\operatorname{cct}$	gag	gct	gag	ggc	tca	gct	gtg	aag	agg	1536
Leu	Arg	Pro	Ala	${\tt Pro}$	Glu	${\tt Pro}$	G1u	Ala	Glu	Gly	Ser	Ala	Val	Lys	Arg	
			500			•		505					510			
atg	cgg	ctt	gat	acc	tgg	aca	tta	aag				,				1563
Met	Arg	Leu	Asp	Thr	Trp	Thr	Leu	Lys								
		515					520									
<210	0> 2	1						•								
<21	1> 2	17														
<213	2> PI	RT					•									
			s no	rveg	icus											
	0> 2		_				_	<b></b>	77.	ъ.	17 - 1	W-1	TY: ~	иia	Clu	
Met	Ser	Leu	Val			Phe	Pro	HIS			vaı	vaı	птѕ	птs 15	Glu	
1	_	_		5		. 7	4.7	41	10		470	41.				
Gly	Туг	Pro	Phe 20		. Ala	. Ala	Ala	. Ala 25		. Ala	. Ala	. Ala	. A1a 30	, Ala	Ala	
San	Δησ	Cvs			Glu	Glu	Asn			Phe	His	Gly	Trp	Leu	lle	
Ber	111 6	35		1110			40					45				
۵lv	Hie			Met	Ser	Pro			Tyr	· Ser	· Met	: Ala	. Lei	ı Ser	Туг	
ulj	50					55		•	•		60					
Ser			ı Tvr	Ala	. Sei			ı Ala	Gly	. Leu	ı Asp	His	s Sei	His	з Туг	
65			/-	1114	70				•	75		-			80	
		v Val	Pro	Pro			a Gly	Pro	Pro	Gly	Lei	ı Gly	g Gl	y Pro	o Arg	
u I J	u = j	,		85			·		9(			•		98		
Pro	. Val	[.vs	s Ars			7 Thr	Ala	a Ası	ı Arg	g Lys	s Glu	ı Arg	g Ar	g Ar	g Thr	
		, -	100					108		-			11			
Glr	n Ser	r Ile			r Ala	a Phe	e Ala	a Gli	ı Lei	u Arg	g Glu	a Cy:	s Il	e Pro	o Asn	

		115					120		•			125					
Val	Pro	Ala	Asp	Thr	Lys	Leu	Ser	Lys	Ile	Lys	Thr	Leu	Arg	Leu	Al	a	
	130					135					140				•		
Thr	Ser	Tyr	Ile	Ala	Tyr	Leu	Met	Asp	Leu	Leu	Ala	Lys	Asp	Asp	G1	n	
145					150					155					16	U	
Acn	G I tr	Gln	Δla	GTu	Ala	Phe	Lys	Ala	Glu	Ile	Lys	Lys	Thr	Asp	Va	al	
VZII	ary	oru	/11 C	165			-0		170					175			
<b>T</b>	۸٦.,	C1.,	Two		Twe	T.17 s	Glar	Len		Glu	He	Leu	Lys	Ser	Tł	nr	
Lys	ulu	GIU		Arg	μλο	шу 3	VIU	185	11011	<b>4-4</b>			190				
	_		180	A	T	T	Thn		Δlv	Δrσ	Thr	Glv			G	ln	
Val	Ser		Asn	Asp	ьys	Lys		туз	uly	M S	****	Gly 205	11 [				
		195	_				200	0.7				200					
His	Val	Trp	Ala	Leu	Glu		Lys	GIN									
	210					215											
<21	0> 2	2															
<21	1> 6	51															
<21	2> D	NA								•							
<21	3> R	attu	s no	rveg	icus												
<22																	
	1> 0	:DS															
			(654	)		,											
	,0> ( )0> 2		(001	′													
~+·		 . ota	- <del>af</del> a	ರ್ಥರ	ማማሮ	ttt	cco	cac	cac	ccc	gt	g gtg	g ca	c ca	t g	gag	48
arra	agı 	, CUE	. U.I	656 61v	. 65°	• Pho	Pro	His	His	s Pro	o Va.	l Va	l Hi	s Hi	s (	lu	
		. Ter	lvai	G19		1 110	, 110	, ,,,,,	1	) ]		_		1	5		
1											t an	ተ øሮ	t. øc			gcc	96
ggo	ta ta	e ccs	s tto	gco	gca	gec	gcz	Lgc	. A1.	. 50 - 11.	. Al	t gc	ν ον 2 Α1	ο Δ1	a	Ala	
Gly	y Ty:	r Pro			i Ala	L Ala	r Als			a ni	a AI	a Al	u Ai	ia ///			
			20	)				2							. 4.	o.++	144
ag	c cg	c tg	agt	cao	gag	g gag	g aac	c cc	c ta	t tt	c ca	c gg	c tg	g cu	نار	21.U	144
Se:	r Ar	g Cy:	s Ser	His	s Gli	ı Glı	ı Ası	ı Pr	о Ту	r Ph	e Hi	s Gl	y Tr	ъ Ге	€U	He	
		3.	5				4	)				4	-D				
o.o.	c ca	c cc	g gas	at:	g to	g cc	e ce	c ga	c ta	.c ag	c at	g go	c ct	tg to	cc	tac	192
69 61	v Hi	e Pr	o Gli	ı Me	t Se	r Pr	o Pr	o As	р Ту	r Se	r Me	et Al	a Le	eu Se	er	Tyr	
uı		0		u 110	0 100	5			-		6	30					
	ل - ماد	0 000	a +a	e ere	റ മന			റ ജന	g ge	c ct	g ga	ac ca	ic to	cc c	at	tat	240
ag	. CC	c ga	5 ca	. 50 . 11	v Gv	ი დე	- 50 γ, Δ1	a Al	a (†1	v Le	213 A	sp Hi	s S	er H	is	Tyr	
		o Gl	ц Ту	r Ai			y ni	a Ai	a. uı	יי ביי	75	- X-		<b></b>		80	
6	5				7	U				4	Ü					50	

00-12-27; 5:41PM; NGB PATENT DEPT

ggg	gga	gtg	ccg	ccc	ggt	gcc	ggg	cct	ccc	ggc	ctg	ggg	ggg	ccg	cgc	288
Gly	Gly	Val	Pro	Pro	Gly	Ala	Gly	Pro	Pro	G1y	Leu	Gly	Gly	Pro	Arg	
				85					90					95		000
ccg	gtg	aag	cgt	cgg	ggc	acc	gcc	aac	cgc	aag	gag	cgg	cgc	agg	act	336
Pro	Val	Lys	Arg	Arg	Gly	Thr			Arg	Lys	Glu	Arg	Arg	Arg	Thr	
			100					105					110			201
cag	agc	atc	aac	agc	gcc	ttc	gcc	gag	ctg	cgc	gag	tgc	atc	CCC	aac	384
Gln	Ser	Ile	Asn	Ser	Ala	Phe		Glu	Leu	Arg	Glu	Cys	116	Pro	ASII	
		115					120					125			dan	432
gtg	ccc	gcc	gac	acc	aaa	ctc	tcc	aaa	atc	aag	act	ctg	cgc	ctg	gcc	454
Val	Pro	Ala	Asp	Thr	Lys	Leu	Ser	Lys	He	Lys			Arg	Leu	Ala	
	130					135					140				200	480
acc	agc	tac	atc	gcc	tac	ctc	atg	gat	ctg	ctg	gcc	aag	gac	gac	cag	400
Thr	Ser	Туг	Ile	Ala			Met	Asp	Leu		Ala	Lys	ASP	Asp	Gln 160	
145					150					155						528
aac	gga	gag	gcg	gag	gcc	ttc	aag	gcg	gag	atc	aag	aag	acc The	, gao	gtg	. 020
Asn	Gly	Glu	Ala			Phe	Lys	Ala			гуѕ	груs	1111	. ASL 175	Val	
				165					170		٠ ـ ـ ـ ـ	. ++.				576
aaa	gag	gag	aag	agg	aag	aaa	gag	ctg	aat	gaa	, allo	LLE	Lac	i agu	aca	010
Lys	Glu	Glu			Lys	Lys	Glu			GIU.	1116	e Let	г Бу: 190	) 9 961	Thr	
			180					185				or or o			າດລອ	624
gtg	agc	ago	aac	gac	aag	aaa	acc	aaa	ggc	cgg . Ame	acc Th	r ggv	, Tree	n Pro	a cag	
Val	Ser			Asp	Lys	s Lys			в СТУ	WI.5	, IIII	208	, <sub>41</sub> 1	y 11.	Gln	
		195					200					200				651
						g cto										-
His			) Ala	a Let	1 G11	l Let		5 G11	1							
	210					215	)									
	0> 2															
	1> 2															
	12> I			•												
			sap	ıens												
<4(	00> 2	23	77_	1 (1)	0.	» Тъ	n 11.	o Ui	e Hi	c Hi	c Hi	s Hi	s Hi	s Hi	s Pro	)
		n Le	u va		у se 5	r. Tà	I. WI	a 1113	5 mr. 1		- 111	~ 111	J 111	1	5	
77.	7	. 7	. 17.*		-	+ I ^	, U÷	e (11-			e I.e	n Ph	e Gl		o Ala	<b>1</b> .
Hi	s Pr	o Al			o me	r ne	u ni	s 01 2		. I 11	, DC			30		
			2	U				_	J				•			

1	Ser	Arg	Cys 35	His	Gln	Glu	Arg	Pro 40	Tyr	Phe	Gln	Ser	Trp 45	Leu	Leu	Ser	
]	Pro	Ala 50	Asp	Ala	Ala	Pro	Asp 55	Phe	Pro	Ala	Gly	Gly 60	Pro	Pro	Pro	Ala	
	Ala 65		Ala	Ala	Ala	Thr 70	Ala	Tyr	Gly	Pro	Asp 75	Ala	Arg	Pro	Gly	Gln 80	
	Ser	Pro	Gly	Arg	Leu 85	Glu	Ala	Leu	Gly	Gly 90	Arg	Leu	Gly	Arg	Arg 95	Lys	
				100					105					Ile 110			
		÷	115					120					125	Ala			·
		130					135					140		Tyr			
	145					150					155					Glu 160	
					165					170				Glu	175		
				180					185					Ala 190			
	Pro	Val	Glu 195	Lys	Arg	Ile	Lys	Gly 200		Thr	Gly	Trp	205	Gln	Gin	vai	
	Trp	Ala 210		Glu	Leu	Asn	Gln	l							•		
		0> 2															
		1> 6 2> D															
				sapi	ens												
	<22			_													
	<22	1> (	DS														
	<22	3> (	1)	(648	3)												
		0> 2												L			48
	atg	aac	cto	gtg	gg	ago	ta(	gca	cac	cat ui	cac	cac	ca:	cae Hie	; cac s His	ccg Pro	40
	Met 1		ı ret	ıval	. GT2		. IÀI	. WIG	11115	5 пл 1(		) 11T?	) III.	TITE	15	s Pro	
	_		e gro	7 CA(			z cto	c cac	gaa			c ct	c tt	c gg1		g gcc	96
	C CLL	,	000	, ,,,,,	, 550		, + *.			-							

00-12-27; 5:41 PM; NGB PATENT DEPT

His	Pro	Ala	His 20	Pro	Met	Leu	His	Glu 25	Pro	Phe	Leu	Phe	Gly 30	Pro	Ala	
	-						ccc Pro 40									144
_	-	gac					ttc Phe					ccg				192
-	_	-					tat Tyr									240
							ctt Leu									288
							cgg Arg									336
							tgc Cys 120									384
_		tcc	-				ctg Leu									432
	ctg					gcc Ala					Ser				gag Glu 160	480
gcc					Leu		aag Lys			Gly						528
				Leu					Gly					. Leu	ggc	576
			Lys					Arg					Gln		gtc Val	624
tgg	gcg		gag	tta	aac	cag										645

Trp Ala		eu G	lu L	eu A											
21					2	215	•								
<210>						•									
<211>															
<212>			•			•									
<213>		o sa	ipiei	ns					•						•
<400> Met Gl	25	\	4.± (	C ~ ~	A on	can.	Ala i	Asn	Lvs	Pro	Ile .	Asp.	Asn A	Asp A	Ala
	lu A	rg r	iet i	ser i	ASP	76I '	CTG 1	TOP	10	• • •		•	`	15	
1 Glu Gl	1 17	-1 7	r <sub>nn</sub> '	u Car	Pro	۸sn	Ile i	Glu		Ser	Phe	Gln	Glu /	Ala 1	Leu
GIU GI	ly v	aı .	11p. 20	oei .	110.	пор	110	25	~			•	30		
Ala I	1. т	'ern 1	20 Dro :	Dna	Cve	Glv	Arg		Lys	Ile	Ile	Leu	Ser	Asp	Glu
Ala 1.	1e 1	.yr 1 35	rijo .	110	0,5	4,7	40					45			
Gly L	ve N	JU Tat	Tvr	Glv	Årg	Asn		Leu	Ile	Ala	Arg	Tyr	Ile	Lys	Leu
	ys r 50	100	IJ	GIJ		55					60				
Arg T	br (	lv.	Lvs	Thr	Arg	Thr	Arg	Lys	Gln	Val	Ser	Ser	His	lle	Gln
65					70					75					۵V
Val L	eu /	Ala	Arg	Arg	Lys	Ser	Arg	Asp	Phe	His	Ser	Lys	Leu	Lys	Asp
				85					90					90	
Gln T	hr .	Ala	Lys	Asp	Lys	Ala	Leu	Gln	His	Met	Ala	Ala	Met	Ser	Ser
			100					105					110		
Ala G	ln	Ile	Val	Ser	Ala	Thr	Ala	Ile	His	Asn	Lys	Leu	Gly	Leu	Pro
		115					120					125			
Gly 1	He	Pro	Arg	Pro	Thr	Phe	Pro	Gly	'Ala	Pro	Gly	Phe	: 1rp	Pro	GLY
	130					135	•		_	~ 1	140		1	Dno	Dhe
Met	He	Gln	Thr	Gly	Gln	Pro	Gly	Ser	Ser	GII	) Asp -	vai	Гра	LIO	160
145					150	_				155			. Dno	. Ile	
Val	Gln	Gln	Ala			Ile	e Gln	Pro	) Ala	a va:	ını	, W19	a Pro	175	: 110
				165	5		_		170		- ¥7ai	l Dny	ο Δla		
Gly	Phe	Glu	Pro	Ala	ı Ser	Ala	a Pro	Ala	a Pro	o 961	r val	LET	o Ala 190	, 11F	, UIII
			180	)		_,	-	18	0	T a:	Vo	1 (21 <sub>1</sub>			^ Ala
Gly	Arg	Şer	· Ile	e Gly	y Thi	r Thi	r Lys	y Pe.	u Ar	д се	u va	20	u Phe 5	, 501	. 1110
		195	5				200		. 0.	M	·~ A ~·			s T.ei	ı Phe
Phe			ı Glr	n Gli	n Ar			O AS	b 96	r iy	r as. 22	ሀ ጥ ካኔ	s His	, <u>n</u> ot	
	210		_ •	•		21	_ 11:	. C.	т. <b>Т</b> -т	m C^			n Tei	ı Lei	u Gli
Val	His	H	e Gl	y Hi	s Al	a As	n Hl	s 96	T, TA	1. 26	1 V2	Ьrr	o Lei	~ DV	1

225					230					235		•	٠		24		
Ser	Val	Asp	Ile	Arg	Gln	Ile	Tyr	Asp	Lys	Phe	Pro	Glu	Lys	Lys	G1	У	
				245					250					200	'		
Gly	Leu	Lys	Glu	Leu	Phe	Gly	Lys	Gly	Pro	Gln	Asn	Ala	Phe	Phe	. Le	u	
			260					265					270			•	
Val	Lys	Phe	Trp	Ala	Asp	Leu	Asn	Cys	Asn	Ile	Gln	Asp	Asp	Ala	ı uı	У	
		275					280	_		^	<b>0</b>	285	A ===	Mod	⊦ T\	<b>.</b> r	
Ala	Phe	Tyr	Gly	Val	Thr		Gln	Туг	GLu	Ser	Ser	GIU	ASII	ne	LII	77	
	290					295		~		01-	300		Vo 1	Va.	ı Gʻ	l n	
Val	Thr	Cys	Ser	Thr		Val	Cys	Ser	Phe	Gly	Lys	GTI1	. 141	y.a	3:	20	
305					310		<b>.</b>	DL.	01.	315		, λτο	· Phe	. Va			
Lys	Val	Glu	Thr	Glu		Ala	Arg	Pne	330	i F Woti	t ary	ni e	, 1110	33	5	, <b>-</b>	
				325 Ser	D	Ma+	Czzc	Gla			- 116	. Asr	Phe			is	
Arg	He	ASN			Pro	мес	Uys	345		110	,	,	350	)			
<b>.</b>	¥		340	Leu	Dro	Glu	Lvs			: Met	t Ası	ı Sei	· Va	l Le	u G	lu	
Lys	reu	туя 355		neu	110		360					369	5				
Λen	Dhe	Thr	. []e	e Leu	ı Leu	Val	Val	Thi	r Ası	n Arg	g As	p Th	r Gli	n Gl	u T	hr	
	370	ì				375	,				38	U					
Ler	Lei	1 Cys	: Met	Ala	ı Cys	. Val	Phe	e G11	u Va	l Se	r As	n Se	r Gl	u Hi	ls G	lly	
385		•			390					39	5				4	100	
Ala	ı Glı	n His	s His	s Ile	e Tyr	Arg	g Let	ı Va	l Ly	s As	þ						
				40					41	0							
<2	10>	26															
<2	11>	1233															
<2	12>	DNA															
<2	13>	Homo	sap	iens													
	20>																
	21>			٥٥١													
		(1).	. (12	36)						*							
<4	<00>	26		g ag		. +.	+ ~	o oro	at 2:	a ድ ሲ	<b>იგ</b> მე	t.t. ga	a.c a	at g	at	gca	48
at	g ga	ia ag	g at	g ag et Se	g ga	יט טן	n Al	a so	en I.	vs P	ro I	le A	sp A	sn A	sp	Ala	
M€		u Ar	g Me	et se	r As 5	ip se	i vi	. 01 /14	JP 12	10					15		
	1	ابر ور	· ^ + ^	gg ag	to or	יר ספ	ac at	ic g		-	gc t	tt c	ag g	ag g	gcc	ctg	96
ga ga	ia gi	gg g1	∟ሮ <b>ኒ</b> { ⊾1 ጥ₁	gg as	so ot an Di	n As	sp I	le G	lu G	ln S	er P	he G	ln G	lu A	Ala	Leu	
G.	in A	TA AS	21 11	Th D	11 1ر		- L										

			20					25					30				
ort.	a†c	tat.	cca	cca	tgt	ggg	agg		aaa	atc	atc	tta	tca	gao	g	aa	144
41a	lle	Tvr	Pro	Pro	Cys	Gly	Arg	Arg	Lys	Ile	Ile	Leu	Ser	Ası	o G	lu	
		35					40					45					,
ggc	aaa	atg	tat	ggt	agg	aat	gaa	ttg	ata	gcc	aga	tac	atc	aaa	a C	etc	192
Gly	Lys	Met	Tyr	Gly	Arg	Asn	Glu	Leu	He	Ala	Arg	Tyr	Ile	Ly:	s I	Leu	
	50					55					60						0.40
agg	aca	ggc	aag	acg	agg	acc	aga	aaa	cag	gtg	tct	agt	cac	at	t	cag	240
Arg	Thr	Gly	Lys	Thr	Arg	Thr	Arg	Lys	Gln	Val	Ser	Ser	His	11	e (	J 111	
65					70					75			•			φu	000
gtt	ctt	gcc	aga	agg	aaa	tct	cgt	gat	ttt	cat	tcc	aag	cta	aa	g	gat	288
Val	Leu	Ala	Arg	Arg	Lys	Ser	Arg	Asp	Phe	His	Ser	Lys	Leu	ьу	S	ASP	
				85					90					9	IJ		336
cag	act	gca	aag	gat	aag	gcc	ctg	cag	cac	atg	gcg	gcc	alg	ຸເດ	iC	Con	550
Gln	Thr	Ala	Lys	Asp	Lys	Ala	Leu	Gln	His	Met	Ala	, Ala	. Met	, se	:1.	Sei	
			100	)				105	,			+«	110		٠.	cet	384
gcc	cag	atc	gto	tcg	gcc	act	gcc	att	cat	aac	aag	CLE	888 613	, ((	75 211	Pro	<b>Q</b> 01
Ala	Gln			Ser	Ala	. Thr			HIS	ASII	ггус	125		ъ		110	
		115	j				120				r orono			у С(	. g	gga	432
ggg	att	cca	cgo	ccg	acc	TLC	CCa	l ggg L Cla	gus Ala	Dr.	666 Gla	, Doc , Phe	Tri	, Pı	ro	Gly	
Gly			Arg	g Pro	inr			) Gly	Vía		140	)	,1				
,	130	l		a ggs		135		. 1.00	tes	. ca:			aa	e c	ct	ttt	480
atg	att	caa	a. a.ca	a ggg r Gly	cae	Doc	559 Cli	, Cer	, 000 2 Set	. Gli	ı Ası	o Val	Ly	s P	ro	Phe	
		e Gli	ı in	լ գլչ	, GII 15(		01)	, Dei	, DOI	15	, 5		- •			160	
145	)			c ta			n cas	or c.c.s	a gros			a ge	c cc	c a	tt	cca	528
gte	g cas	g cas	g go	a Ty	n Dry	5 Ile	- G1:	n Pro	a Ala	a Va	l Th	r Al	a Pr	o I	le	Pro	
Va.	i uii	<u>)</u> (1)	II AI	a 191 161			, 01,		17	0				1	75		
	- ++·	t an	<b>«</b> ሶር	t gc	a te	e eci	e de	a gc			a gt	c cc	t gc	c t	gg	caa	576
688	g tt	uga. a.C.1	5 CC 11 Dr	0 50 0 Al	a Se	r Al:	a Pr	o Al	a Pr	o Se	r Va	l Pr	o Al	a I	<b>`</b> rp	Gln	
GI,	у ГП	C UI	18		<b>.</b>			18	5				19	0			
~~	t oa	c to	r at	t ee	e ac	a ac	c aa	g ct	t cg	c ct	g gt	g ga	a tt	t t	ca	gct	624
65 01	υ Δr	o Co	r II	e G1	v Th	r Th	r Ly	s Le	u Ar	g Le	u Va	.1 G1	u Pl	ne S	Ser	· Ala	
σı	J MI						20					20	15				
++	t ct	് ഉദ	e ca	ag ca	g cg	a ga	c cc	a ga	c to	g ta	ic aa	ac aa	ia ca	ac (	eto	ttc:	672
PΉ	e Le	u Gl	u G	ln Gl	n Ar	g As	p Pr	o As	ap Se	r Ty	r As	sn Ly	rs H	is l	Leu	ı Phe	
++	t ct	19 c ga	15 ag ca	ng ca	g cg	a ga	20 c cc	iO a ga	ic to	g ta	ic aa	20 acaa	ib La ca	ac (	etc	ttc Phe	672

	910					215					220					
	210	a++	~~~	aat			cat	tet	tac			cca	ttg	ctt	gaa	720
gtg	cac	71.	555 C1	ui.	41a	Aen	Vac Hie	Ser	Tur	Ser	Asp	Pro	Leu	Leu	Glu	
	HIS	ite	GIY	1115	230	Mon	1113	DCI		235	.ı.≎F				240	
225			. 4.4.			^++	+-+	<b>ሮ</b>			cet	gaa	aag	aaa		768
tca	gtg	gac	att	cgı	cag	all	T	A are	Tyc	Dha	Pro	gaa	Lvs	Lvs	Glv	
Ser	Val	Asp	He		GIII	116	1 y I		250	1 116	110	Glu	цу	255	ar,	
				245						000	aat	ac.c	ttc		ctc	816
ggc	tta -	aag	gaa	ctg	ווו	gga	aag	ggc nz	Das	Cln	Acn	gcc	Phe	Phe	Leu	011
Gly	Leu	Lys		Leu	Pne	Gly	гàг		rro	GIII	VOII	Ala	270	1110	ьси	
			260					265		-++	000	gat		act	୍ଦ୍ରପ	864
gta	aaa	ttc	tgg	gct	gat	tta	aac	tgc	aat	all.	Caa	gat	Sac	Ala	656 61v	. 001
Val	Lys		Trp	Ala	Asp	Leu		Cys	ASII	116	AIII	Asp	woh	Ala	UIJ	
		275					280				<b>4.4</b>	285	aat	ata	202	912
gct	ttt	tat	ggt	gta	acc	agt	cag	tac	gag	agt	tet	gaa	aat	Mode	aca	314
Ala	Phe	Туг	Gly	Val	Thr		GIN	Tyr	Glu	ser		Glu	ASII	Mec	IIII.	
	290					295					300			ant a	<b>700</b>	960
$\operatorname{gtc}$	acc	tgt	tcc	acc	aaa	gtt	tgc	tcc	ttt	ggg	aag	caa	gta	gua	gaa Clu	900
Val	Thr	Cys	Ser	Thr		Val	Cys	Ser	Phe			GIN	Val	۸ari	Glu 320	
305					310					315			444			1008
aaa	gta	gag	acg	gag	tat	gca	agg	ttt	gag	aat	ggc	cga	ւ ենե	gla U-1	tac	1000
Lys	Val	Glu	Thr	Glu	Tyr	Ala	Arg	Phe		Asn	Gly	Arg	Pne	. vai	Tyr	
				325					330					335		1056
cga	. ata	. aac	cgc	tcc	cca	. atg	tgt	gaa	tat	atg	ato	aac	tto	ato	cac	1056
Arg	Ile	Asn	Arg	Ser	Pro	Met	Cys			Met	, 11€	e Asn	Pne	. 116	His	
			340					345				_	350			1104
aag	cto	aaa	cac	tta	cca	ı gag	aaa	. tat	atg	ate	aac	agt	; gti	tte	g gaa	1104
Lys	Leu	Lys	His	Let	ı Pro	Glu	Lys	Tyr	Met	Met	: Ası			Le	u Glu	
		355					360					365				4450
aac	: tto	aca	att	t tta	ı tte	g gtg	g gta	aca	aac	age	g gat	t aca	a caa	a ga	a act	1152
Asr	ı Phe	e Thi	110	e Lei	ı Lei	ı Val	Val	Thr	· Asr	ı Arş	g Asj	o Thi	Gli	n GI	u Thr	
	370	)				375	5				380	0				
cta	a cto	c tgo	ata	g gco	tg.	t gte	g ttt	gaa	ı gti	tea	a aa	t ag	t ga	a ca	c gga	1200
Lei	ı Lei	u Cy:	s Me	t Ala	a Cy:	s Val	l Phe	e Glu	ı Val	l Se	r As:	n Se	r Gl	u Hi	s Gly	
38					39					39					400	
		a ca	t ca	t at	t ta	c agg	g cti	t gta	a aa	g ga	c					1233
							g Lei									

405

410

<210> 27 <211> 427 <212> PRT <213> Homo sapiens <400> 27 Ile Thr Ser Asn Glu Trp Ser Ser Pro Thr Ser Pro Glu Gly Ser Thr 1 Ala Ser Gly Gly Ser Gln Ala Leu Asp Lys Pro Ile Asp Asn Asp Ala 25 20 Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala Leu 45 40 Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp Glu 55 Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys Leu 70 Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile Gln 90 85 Val Leu Ala Arg Arg Lys Ala Arg Glu Ile Gln Ala Lys Leu Lys Asp 110 105 100 Gln Ala Ala Lys Asp Lys Ala Leu Gln Ser Met Ala Ala Met Ser Ser 125 120 115 Ala Gln Ile Ile Ser Ala Thr Ala Phe His Ser Ser Met Ala Leu Ala 140 135 Arg Gly Pro Gly Arg Pro Ala Val Ser Gly Phe Trp Gln Gly Ala Leu 155 150 145 Pro Gly Gln Ala Gly Thr Ser His Asp Val Lys Pro Phe Ser Gln Gln 175 170 165 Thr Tyr Ala Val Gln Pro Pro Leu Pro Leu Pro Gly Phe Glu Ser Pro 190 185 180 Ala Gly Pro Ala Pro Ser Pro Ser Ala Pro Pro Ala Pro Pro Trp Gln 205 200Gly Arg Ser Val Ala Ser Ser Lys Leu Trp Met Leu Glu Phe Ser Ala 220 215 210 Phe Leu Glu Gln Gln Gln Asp Pro Asp Thr Tyr Asn Lys His Leu Phe 235 240 230 225

Val	His	Ile	Gly	Gln	Ser	Ser	Pro	Ser	Tyr 250	Ser	Asp	Pro	Tyr	Leu 255	Glu		
Ala	Val	Asp		245 Arg	Gln	Ile	Tyr	Asp 265	Lys	Phe	Pro	Ģlu	Lys 270	Lys	Gly		
Gly	Leu		260 Asp	Leu	Phe	Glu	Arg 280	Gly	Pro	Ser	Asn	Ala 285	Phe	Phe	Leu		
	200					295	Asn				300				Ser		
205	Phe				310	Ser	G1n			315					320		
Ile				325					330	1				330			
			340	٠.				345	)				330	,	Tyr		
		355					360	)				300	)		e His		
	370	ì				379	5			_	381	J			u Gli		
205	•				390	)				39	5				u Thi 409	U	
				409	5				41	U		a se	ĭ. OI	41	s Gl; 5	J	
Ala	a Gli	n Hi	s Hi:	s Ile 0	∋ Ту	r Ar	g Le	u va 42	.1 цу 5	S 41	u						
<2	10> / 11>	1281															
<2			sap	iens													
<2	20>		/15	0041													
	223>	28			.a. +.	ntor 2	ac t	et e	ድሮ ጸ	cc t	cc C	ct g	ag g	gg a	gc a	cc	48
at I	le Th	ec to ar So	er A	ac ga sn Gl	lu T	rp S	er S	er P	ro T	hr S 10	er P	ro G	lu G	ly S	er T 15	hr	
g	1 cc t	ct g	gg g	gc a	5 gt c	ag g	ca c	tg g	ac a		cc a	.tc g	ac a	at g	gac g	ca	96

Ala			20					25					30			
gag Glu	ggc Gly	gtg Val	tee	agc Ser	ccg : Pro	gat Asp	Ile	gag Glu	cag Gln	agt Ser	ttc Phe	cag Gln 45	gag Glu	gcc Ala	ctc Leu	144
gcc Ala	atc Ile	35 tac Tyr	ccg Pro	ccc Pro	tgt Cys	Gly	40 agg Arg	cgc Arg	aaa Lys	atc Ile	He	ctg Leu	tcg Ser	gac Asp	gag Glu	192
ggc Gly	50 aag Lys	atg Met	tat Tyr	ggt Gly	cgg Arg	55 aac Asn	gag Glu	ctg Leu	att Ile	Ala	60 cgc Arg	tac Tyr	atc Ile	aag Lys	ctc Leu 80	240
65 cgg Arg	aca Thr	ggg Gly	aag Lys	acc Thr	70 cgc Arg	acc Thr	agg Arg	aag Lys	Gln	75 gtc Val	tcc Ser	agc Ser	cac His	116	cag Gln	288
gtg Val	ctg Leu	gct Ala	cgt Arg	85 cgc Arg	aaa Lys	gct Ala	cgc Arg	Glu	90 atc Ile	cag Gln	gcc Ala	aag Lys	Leu	Lys	gac Asp	336
cag Gln	gca Ala	gct Ala	100 aag Lys	gac Asp	aag Lys	gcc Ala	Leu	Gln	agc Ser	atg Met	gct	ı Ala	, Met	tcg	tct Ser	384
gca Ala	cag Gln	115 atc Ile	atc	tcc Ser	gcc Ala	Thr	Ala	ttc	cac His	agt Ser	Ser	r Met	gco	cto Lei	gcc Ala	432
cgg Arg	130 ggc Gly	èco	ggo Gly	cgc Arg	cca Pro	135 gca Ala	gto	tca Ser	ggs Gl	y Phe	e Tr	g caa	a gga n Gly	a gci y Ala	t ttg a Leu 160	480
145 eca Pro	0.00	caa y Glr	e gco	e gga a Gly	150 a acg Thr	tec	cat	t gat s Asp	o Va	1 Ly	g cc	t tt o Ph	c tc e Se	t ca r Gl: 17	g caa n Gln	528
ac Thi	c ta r Ty	t gc	t gto a Va	165 c cae l Gli	z cc1	t ccs o Pro	g cta	u Pr	o Le	g cc	a gg o Gl	g tt y Ph	e Gl	g tc u Se	t cct r Pro	576
gc:	a gg a Gl	g cc y Pr	18 c gc o Al	c cc	a te o Se	g cc r Pr	o Se	r Al	g cc	c cc o Pr	g gc o Al	a Pr	o Pr	a tg	g cag p Gln	624
gg	c cg	19 c ag	5 c gt	g gc	c ag	c tc	20 c aa		c tg	g at	g tt	20 tg ga		c to	t gcc	672

00-12-27; 5:41 PM; NGB PATENT DEPT

Gly	Arg 210	Ser	Val	Ala	Ser	Ser 215	Lys	Leu	Trp	Met	Leu 220	Glu	Phe	Ser	Ala	
ttc		gag	cag	cag	cag	gac	ccg	gac	acg	tac	aac	aag	cac	ctg	ttc	720
Phe	Len	Glu	Gln	Gln	Gln	Asp	Pro	Asp	Thr	Tyr	Asn	Lys	His	Leu	Phe	
225	Dou	U I U	4 111		230			-		235					240	
	cac	att	ggc	cag		agc	cca	agc	tac	agc	gac	ccc	tac	ctc	gaa	768
								Ser								
Val	Tire	110	u I J	245	224				250					255		
ወርር	ort.o	eac	atc		caa	atc	tat	gac	aaa	ttc	ccg	gag	aaa	aag	ggt	816
Ala	Va I	Asp	Ile	Are	Gln	Ile	Туг	Asp	Lys	Phe	Pro	Glu	Lys	Lys	Gly	
1110	100	, LOP	260	0				265					270			
gga.	ctc	aag		ctc	ttc	gaa	cgg	gga	ccc	tcc	aat	gcc	ttt	ttt	ct.t	864
G]v	Leu	Lvs	Asp	Leu	Phe	Glu	Arg	Gly	Pro	Ser	Asn	Ala	Phe	Phe	Leu	
u 10		275					280					285				
gtg			tgg	gca	gac	ctc	aac	acc	aac	atc	gag	gat	gaa	ggc	agc	912
Val	Lys	Phe	Trp	Ala	Asp	Leu	Asn	Thr	Asn	Ile	Glu	Asp	Glu	Gly	Ser	
	290		•			295					300					
tcc	ttc	tat	ggg	gtc	tcc	agc	cag	tat	gag	ago	ccc	gag	aac	atg	atc	960
Ser	Phe	Tyr	Gly	Val	Ser	Ser	Gln	Tyr	Glu	Ser	Pro	Glu	Asn	Met	Ile	
305					310					315	í				320	
atc	acc	tgc	tcc	acg	aag	gto	tge	tct	ttc	ggo	aag	; cag	gtg	gtg	gag	1008
Ile	Thr	Cys	Ser	Thr	Lys	Val	Cys	Ser	Phe	G13	Lys	Glr	Val	Val	Glu	
				325					330	)				335		عنسم ،
aaa	gtt	gag	aca	gag	tat	gct	. cgc	tat	gag	aat	gga	a cac	tac	tct	tac	1056
Lys	Val	Glu	Thr	Glu	Tyr	Ala	ı Arş	y Tyr	Glu	ı Ası	ı Gly	7 His	Tyı	Ser	Tyr	
			340					345					350			
cgo	atc	cac	cgg	tec	ccg	cto	tgt	t gag	tac	: at	g ato	c aac	e tto	ato	cac	1104
Arg	; Ile	His	Arg	, Ser	Pro	Let	ı Cy:	s Glu	г Туз	· Me	t Ile	e Ası	n Pho	e Ile	His	
		355	5				360	)				36	5			
aag	cto	aag	g cao	cto	cct	ga	g aa	g tac	ate	g at	g aa	c ag	c gt	g ctg	g gag	1152
Lys	. Leu	ı Lys	s His	s Lei	ı Pro	Gl1	u Ly	s Tyı	Me	t Me	t As	n Se	r Va	l Lei	ı Glu	•
	370					37					38					4000
aac	tto	ace	c at	c cta	g cag	ggt	g gt	c acc	aa	c ag	a ga	c ac	a ca	g ga	g acc	1200
Ası	n Phe	Th	r Ile	e Lei	u Gli	ı Va	l Va	1 Thi	r Asi	n Ar	g As	p Th	r Gl	n Gl	u Thr	
38	5				390	)				39	5				400	, , , , ,
tt	g cta	g tg	c at	t gc	c ta	t gt	c tt	t gag	g gt	g to	a gc	c ag	t ga	g ca	c ggg	1248

Leu	Leu	СЭ	s I		Ala 405	Tyr	Val	Phe	Glu	Val 410	Ser	Ala	Ser	Glu :	His ( 415	ily	
~a+	000	•				tac	ลฮฮ	ctg			gaa						1281
gct	Cag	LI :	ici	,ac . Jie	Ile	Tyr	Arg	Leu	Val	Lys	Glu						
Ala	gii	Π.		115 420	110	1,11	8		425								
<210	0> 2	9															
<21	1> 4	35															
	2> P																·
			o s	apie	ns						•		•				
<40	0> 2	29				70	A	41.	Con	Sor	Car	Pro	Glv	Glu	Ala	Arg	
Ile	Ala	ı S	er .	Asn			ASI	Ala	per.	10	061	110	Gly	-,-	15	0	
1		^		<b>n</b> .	5	C1	T 011	Aan	Tve		I.em	Asp	Asn	Asp		Glu	
Glu	Ası	) G	łlу		GLU	Gly	ъeп	ASP	25	ar,	Dog	1107		30			
0.1	. 57.	<b>।</b> ব	١	20	Dro	den	Ιlο	Gln			Phe	Gln	Glu	Ala	Leu	Ala	
GLY	va.	1 1	35	SCI	rio	, vob	110	40	4111				45				
116	. ጥ <sub>ተ</sub> ,	n 1	ວວ	Pro	Cvs	. Glv	Arg		Lys	Ile	Ile	Leu	Ser	Asp	Glu	Gly	
116	: 1y 5		10	110	0,2	, 41,	55					60	)				
Ττσ	ں مM د	ս + ′	Γvr	Glv	Ars	. Asn			Πle	Ala	Arg	Tyr	· Ile	Lys	Leu	Arg	
ьу: 68			LJL	41,	***	70					75	;				80	
Thi	, r G1	v 1	Ľvs	Thr	Ars	g Thr	Arg	Lys	Gli	l Val	Ser	Se)	r His	He	Gln	Val	
					8	5				90	)				90		
Le	u Al	a	Arg	Lys	Ly	s Vai	l Arg	g Glu	ı Tyi	c Gli	ya.	l Gl	y Ile	Lys	Ala	Met	
				100	)				10	5				110	,		
As	n Le	eu	Asp	Gln	ı Va	l Se	r Ly:	s Ası	Ly	s Ala	a Lei	u Gl	n Sei	r Met	. Ala	. Ser	
			115					120	)				12:	)			
Ме	t Se	er	Ser	Ala	a Gl	n Il	e Va	1 Se	r Al	a Se	r Va	l Le	u Gli	n Asi	n Lys	Pne	
	13	30					13	5				14		. 0-	- 0	. Ana	
Se	r P	ro	Pro	Sei	r Pr			o Gl	n Al	a Va	l Ph	e Se	r In	r 5e	r sei	Arg	
14	<b>!</b> 5					15	0				15		- 01	D.	~ Co.	160	
Ph	ne T	rp	Ser	Se	r Pr	o Pr	o Le	u Le	u G1	y Gl	n Gi	n Pr	o gr	y Pr	17	r Gln	
					16	55				17		<b>+</b> 1	. 61	D			
As	sp I	le	Lys	s Pr	o Ph	ne Al	a Gl	n Pr	o Al	la Ty	r ľī	1 0	ie ar	n Fr 19	U EL	o Leu	
				18	0				18		4.7	I . D.	. T.			r Ala	
P	ro P	ro	Th	r Le	u S	er Se	er Ty			ro Le	eu Al	la P	ം പെ	u FI 15	บ มะ	r Ala	
			19	5				20	10				20	Ü			

Ala	Ala	Ser	Val	Pro	Val	Trp	Gln	Asp	Arg	Thr	lle	Ala	Ser	Ser	Arg .
	210			-		215				~ 7	220	0.1	A	A an	Dro
Leu	Arg	Leu	Leu	Glu	Tyr	Ser	Ala	Phe	Met	Glu	Vai	GIU	Arg	ASP	240
225			•		230			_	4	235	41				
Asp	Thr	Tyr	$\operatorname{\mathtt{Ser}}$	Lys	His	Leu	Phe	Val	His	He	Gly	WIII	mr	ASII	110
				245				· _	250		FT . T .	A	C1-	255	Тиг
Ala	Phe	Ser	Asp	Pro	Pro	Leu	Glu	Ala	Vai	Asp	vai	Arg	070	116	1 % 1
			260					265		_	0.7	T	270	C1	Lve
Asp	Lys	Phe	Pro	Glu	Lys	Lys	Gly	Gly	Leu	Lys	Glu	Leu	lyr	ulu	Пуо
		275					280		_	-1	<b></b>	285	4.55	Lou	λen
Gly	Pro	Pro	Asn	Ala			Leu	Val	Lys	Phe	Trp	Ala	Asp	Leu	YOU
	290					295		_			300		602	Con.	Gln
Ser	Thr	Ile	Gln	Glu	Gly	Pro	Gly	Ala	Phe	Tyr	Gly	vai	zer.	261	320
305	;				310				_	315		/πъ	T ***	. Val	
Tyr	· Ser	Ser	Ala	. Asp	Ser	Met	Thr	He	Ser	val	ser	inr	ъу	335	Cys
				325					330		on?	01	. Weisse		
Ser	Phe	Gly	Lys	Gln	Val	Val	Glu	Lys	Val	GIU	Inr	, Glu	1 1 yr	, WIS	Arg
			340	) .		_		345		•••	A	. 0	350		- Cvc
Lei	ı Glu	ı Asr	Gly	7 Arg	Phe	val	Туг	· Arg	3 116	e H15	Arg	s ser	· FFC	Me	Cys
		355	5				360	}	_	-	TT :	365		. Cl.	1 I Ve
Gli	и Туг	r Met	t Ile	e Asr	ı Phe			s Ly:	s Lei	і Гу:	5 H15	s тег	rre	י עוני	ı Lys
	370	0				378	5 .			007	380		. ድነ	a Va	i Val
Ty	r Me	t Me	t Ası	n Sei			ı Gl	u As:	n Ph	e Th	r 119	e Lei	1 411	ı va	l Val 400
38	5				390	0			_	39		. 43.	. Dh	o Va	
Th	r Se	r Ar	g As	p Se	r Gli	n Gl	u Th	r Le	u Le	u Va	1 11	e Ala	a PII	e va 41	1 Phe
				40	5			_	41		***	57	ነ ጥ		
Gl	u Va	.l Se	r Th	r Se	r Gl	u Hi	s Gl	y Al	a Gl	n Hi	s Hl	s va	1 iy	и г. га	s Leu
			42	0				42	5				43	U	
Va	ıl Ly	s As	p												
<2	210>	30													
<2	211>	1305	;												
<2	212>	DNA		•											
<'2	213>	Homo	sar	oiens	5										
<	220>														,
<;	221>	CDS													
<	223>	(1)	(1	305)											

<400	> 30												~^	~ .	***	c a	σ	48
ata	gcg	tcc	aac	agc	tgg -	aac :	gcc	agc	agc	agc	DDO	ggg Clv	ga ta	15. 8 11. <i>1</i>	Ma	Ar	5 g	40
lle	Ala	Ser	Asn	Ser	Trp	Asn	Ala	ser	5er 10	oei.		u 13	ĢΙ	. u 1	15	111	9	
1				5		<b>.</b>				ate.	da c	220	ga	it.		2.8	g	96
gag	gat	ggg	ccc	gag	ggc	ctg	gac	aag	555 61v	Lon	Agn	Asn	As	, טב מו	Ala	GI	u	
Glu	Asp	Gly		Glu	дТÀ	Leu	ASP	туs 25	GTÀ	ьси	лэр	TO.		30		•		
			20			a+ <b>a</b>	~~ ~		200	ttc	cag	gae			ctg	go	c C	144
ggc	gtg	tgg	agc	ccg Pro	gac	alc	ይወይ ይገ።	Cln	Ser	Phe	Gln	Gli	, d	la	Leu	A]	la	
Gly	Vai		Ser	Pro	ASP	116	40	um	DOI	1 110	0111	45	5					
		35		tgc	aac	വ ന്നാ		ลลฮ	atc	atc	cte	te	ıga	ac	gag	g	gc	192
atc	tac	ccg	Dro	Cys	65°	Are	Arg	Lvs	Ile	Ile	Leu	Sei	· A	sp	Glu	G	ly	
116		LI.O	FFU	∪ys	uıy	55	111.0	<b>1</b> 1, 0			60	)						
~~~	50	tan	ara c	cga	aat		ttg	att	gca	cgc	tat	tat	t a	aa	ctg	a	gg	240
Twe	Mot	Tur	Glv	Arg	Asn	Glu	Leu	Ile	Ala	Arg	Tyr	l II	e.L	уs	Leu	. A	rg	
65					70					75							ου	
200	000	ลลย	act	cgg	acg	aga	aaa	cag	gtg	tcc	ago	c ca	са	ta	cag	g	tt	288
Thr	Glv	Lvs	Thr	Arg	Thr	Arg	Lys	Gln	Val	Ser	Se	r Hi	s I	le	Glr	ı V	al	
				85					90						90	)		000
cta	gct	. cgg	aag	g aag	gtg	cgg	gag	tac	cag	gtt	gg	c at	c a	ag	gco	: a	itg	336
Leu	ιAla	Arg	Lys	Lys	: Val	Arg	G1u	Tyr	Glr	Val	G1	y Il	e ı	⊿y S	Ala	ı M	let	
			100	)				105	•				1	110				201
aac	cte	g gao	ca	g gto	tco	aag	gac	aaa	e gc	ct	t ca	g ag	sc a	atg	gc	g 1	ccc	384
Ası	ı Lei	ı Ası	p <b>G</b> 11	n Val	l Ser	Lys	Asp	Lys	s Ala	a Lei	1 Gl	n 56	er i	Met	Al	a	ser	
		11!	5				120	)				12	25					432
ata	g tco	c to	t gc	c cas	g ato	gto	tct	gc	c ag	t gt 	c ct	g ca	ag :	aac	: aa	g - 1	llu Dha	402
Me	t Se	r Se	r Al	a Gli	n Ile			Ala	a Se	r Va	l L€	eu G	ın .	ASI	ЦЦУ	\$ /	He	
	13	0				135					14		_+	+ 0.0	. + 0	ď	ი თ თ	480
ag	c cc	a cc	t tc	c cc	t ct.	g cc	cas	g gc	cgt 	c tt	C TO	cc a	C C hn	000	, Co	5	∟55 ∆rσ	100
Se	r Pr	o Pr	o Se	r Pr			o Gli	n Al	a Va	1 PD	e 26	31. 1	ш	261	. 50	.1	160	
14	5				15	0				15		a+ a	œ0	00/	~ +c	.+		528
tt	c tg	g ag	c ag	c cc	c cc	t ct	c ct;	g gg	a ca	g ca	ıg cı	uc g	ga 1 <sub>v</sub>	Dr	n S4	, c	Gln	000
Ph	e Tr	p Se	er Se	r Pr		o Le	u Le	u Gl	y Gl	n til	n P	ניט ט	ТÀ	117	. be	75	4 Y 11	
				16	5				17		^	ተል ማ	a o	CC			cte	576
ga	ic at	c aa	ag co	c tt	t go	a ca	g cc	a go	C T8	ro D	o I	יט טע. מים[	ln:	Pr	o Pi	ra	Leu	
As	II as	e L	7s P1	ro Ph	ie Al	a Gl	n Pr	O Al	a I)	ı, ı,	.0 1	TR (	1 T 11	1 Y	<b>U</b> 1.			

			180				18	35					190				
		~ ^ C	100	200	agt. t	tat ga			tg g	cc (	cg	ctc	ccc	tca	gc	t	624
ccg	cca	aug mhn	Lou	Ser	Ser 1	Tyr G	lu P:	ro L	eu A	la I	Pro	Leu	Pro	Ser	Al	a	
Pro	Pro		Deu	DCI	001	2	00					205		•			
_		195	art ar	oot	oto 1	tgg c		ac c	gt a	acc :	att	gcc	tcc	tcc	cg	g	672
gct	gcc	Con	gug	Dro	5°5 Val '	Trp G	In A	so A	rg 7	Thr	Ile	Ala	Ser	Ser	Ar	g	
Ala		5er	val	rro	Val	215 215	111 11				220						
	210		<u>.</u> .		+4+	tca g	ece t	tc a	nt.g	gag	gtg	cag	cga	gac	cc	t	720
ctg	cgg	ctc	ctg	gag	T	Ser A	la P	he N	Met. (	Glu	Val	Gln	Arg	Asp	Pr	0.0	
	Arg	Leu	Leu	GLU		ser n	lia i	HC 1	100	235	,		_		24	10	
225					230	. 4 . 4	.++ ^	+~		-	<b>ም</b> ምር	cag	acg	aac	: co	ЭС	768
gac	acg	tac	agc	aaa	cac	ctg t	いしし と	545 '	uic Uic	ulla.	Glv	Gln	Thr	Ası	P	ro	
Asp	Thr	Tyr	Ser		HIS	Leu F	ne v	/all	250	116	ar)	4 ^ ^		255			
				245						ero't	at a	o or o	cas			at	816
gcc	ttc	tca	gac	cca	CCC	ctg g	gag g	gca	gua	gat	TIA I	And	, նևչ , նկ	, II.	- Т	vr	
Ala	Phe	Ser	· Asp	Pro	Pro	Leu	Glu A	Ala	var	ASP	Vai	VI 6	270	. II.		J -	
			260	)				265			**	+.			ם א	26	864
gao	aaa	, tto	ccc	gag	aaa	aag	gga	gga	ttg -	aag	gag	T as	; ta . 17	r gad	5 a n I	77 C	<b>44.</b>
Ası	Lys	Phe	e Pro	Glu	Lys	Lys	Gly	Gly	Leu	Lys	GIU	Dei	1 1y.	i, di	u 1.	) J	
		27	₹				280					40	י				912
ggg	g ccc	cc	t aat	t gcc	ttc	ttc	ctt	gtc	aag	ttc	tgg	ggc	c ga	 		lac	512
G1:	y Pro	Pr	o Ası	n Ala	. Phe	Phe	Leu	Val	Lys	Phe	Tri	) Al	a As	р ге	u F	7211	
	200	1				295					301	J					960
ag	c ac	at	c ca	g gag	ggc	ccg	gga	gcc	ttc	tat	gg	g gt	c ag	c to	T (	cag	900
Se	r Th	r Il	e Gl	n Glu	ı Gly	Pro	Gly	Ala	Phe	Tyr	Gl	y Va	.1 Se	er Se	.1	ulli	
20	<u>د</u>				310	)				315	)					020	4000
+ 0	a ar	e te	t go	t ga	t ago	atg	acc	atc	agc	gto	c tc	c ac	c aa	ag gt	g	tgc	1008
าก	т Se	т Ѕе	r Al	a. As	p Ser	Met	Thr	Ile	Ser	· Va	l Se	r Th	ır L	y 5 Y 6	11	Cys	
				32	5				330	)				٥.	טט		
+ -	. ++	+ 00	tc 22	a ca	e ets	g gta	gag	aag	gte	g ga	g ac	t ga	ng t	at g	cc	agg	1056
υ( α.	nh	,	50 G.C 1 17 T 1	ze Gl	n Vai	l Val	Glu	Lys	; Val	G1	u Th	ır G	lu T	yr A	la	Arg	
26	er Kr	ie u.	19 D3		II Yu.	1 ,	V	345	5				3	50			
			ۍ حم	tV ~~ ^~	. 44	t gtg	tac			c ca	C C	gc t	cg c	cc a	tg	tgc	1104
C-	tg ga	ig a	ac g	58 C8	,c oc	e Val	ጥ ነም ነው። ተነንድ	Ars	 - []	e Hi	s Ai	rg S	er P	ro M	et	Cys	
L	eu G			ту АГ	g rn	- AGT	360	, , , , , , , , , , , , , , , , , , ,	, 11°			3	65				
		3	55	1		c ato			<sub>Մ</sub> բ+	g 22	e c	-		CC P	ag	aag	1152
g	ag t	ac a	tg a	tc aa	ic tt	c alc e Ile	; (;a.(	, aa	5 UU	n In	75 H	is I	eu F	ro (	lu	Lys	
G	In T	vr M	et. I	le As	an Ph	e 116	; п18	ьuy	ວ ກຣ	ս ոչ	. J 11	10 L			•	v	

	370					375					380						
tac	ato	atg	aac	agc	gtg	ctg	gag a	aac 1	ttc	acc	atc	ctg	cag	g	tg g	gtc	1200
Tyr	Met.	Met	Asn	Ser	Val	Leu	Glu A	Asn I	Phe	Thr	He	Leu	Gln	V	al \	/al	
385					390					395					•	±00	
೨೧೮	agc	cgg	gac	tcc	cag	gag	acc -	ttg	ctt	gtc	att	gct	ttt	g	tc	ttc	1248
Thr	Ser	Arg	Asp	Ser	Gln	Glu	Thr !	Leu :	Leu	Val	lle	Ala	Phe	· V	al l	Phe	
1111	551		1	405					410					4	15		
gaa	ot.c	tcc	acc	agt	gag	cac	ggg	gcc	cag	cac	cat	gtc	tac	a	ag	ctc	1296
Glu	Val	Ser	Thr	Ser	Glu	His	Gly	Ala	Gln	His	His	Val	Tyr	· I	ys	Leu	
ulu	Vai	, DOI	420		-,			425					430	)			
at c	aaa	øar.	100														1305
_	Lys																•
Val		435				-											
Z211	0> 3																
	1> 1																
	2> P 3> H		cani	ane													
			Sap.	CHS													
<40	0> 3	1	. 11	a Pro	ι Δησ	Cvs	Arg	Ala	Val	Arg	s Set	r Let	ı Le	u	Arg	Ser	
		WI.5	, MI	יווג :		0,70	*** 0	11100	10						15		
1	TT.	l	_ 01.	o OU r	) Lau	Pro	Leu	Ala			e Va	l Ara	g Ar	g	Leu	Gly	
His	ТУГ	, ALS	2		I Dec	. 110	, nou	25		., ,			3	30			
	0.1	01.	<i>ک</i> حہر ا	- Am	or I an	ı Val	Gln		Glv	ASI	o Pr	o Al	a Al	lα	Phe	Arg	
Pro	) GII			р мг	g ner	í AGT	40	111 0	W. 2.0	,	•	4	5				
		3	0 1 . 1	. C1	- C17	, T 61	ı Val	Cvs	Va1	l Pr	o Tr	n As	n A	la	Arg	Pro	
Ala			1 AI	a ui	и су:	, цес 59		0,5	100		6	0	•				
	50	) 	4 7	₩	- 0.		e Arg	. Gln	Va	1 Se			u L	vs	Glu	Leu	
		lA c	a Al	a Pr			e Arg	, UII		7	1 0, '5	0 20				80	)
69	5				71		- I - 1		. Cl.			₩ <b>Δ</b> Τ	a L	vs	Asr	. Val	
۷a	l Al	a Ar	g Va			n Ar	g Leu	ı Oya	9	ת תיאד	5 41	1, 111	2	<i>u</i> –	95	5	
					55	-	. т.				~ A	nor Gi	lv G	Ιv			)
Le	u Al	a Ph			ie Al	a Le	u Let	I AS	י זית ד	улл	ומ הו	ig u	ւյ ա	10			
			10	00				109		Та	D					l Thr	,
Gl	u Al	a Ph	ie Tl	ır Th	ır Se	r Va	l Arg		L IÄ	ī, re	eu r	10 A3	511 1 2に 1	TTT.	Y LL		•
		11	15				121		~-	-	7		25 ^		. l~	a Va	1
As	p Al	a Le	eu A	rg G	ly Se	r Gl	y Ala	a Tr	p Gl	у ь	eu l	eu L	eu P	n.g	A.L.	s va.	ı
	13	80				13	15				1	40					

Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val
160
Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr  175  165  170  175
Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly 185 190
Pro Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg
Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg 220
Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg 240
ეფე <u>Δ</u> ου
Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp  255 245 250 250 250 250 250 250 250 250 250 25
Ala His Pro Gly Arg Thr Arg Gly Pro Ser Asp Arg Gly Phe Cys Val 260 265 270
Val Ser Pro Ala Arg Pro Ala Glu Glu Ala Thr Ser Leu Glu Gly Ala  285
280
Leu Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Gln His His
296
Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Irp Asp III 110
910 310
Cys Pro Pro Val Tyr Ala Glu Thr Lys His Phe Leu Tyr Scr 335
Arg Lyg Clu Glp Leu Arg Pro Ser Phe Leu Leu Ser Ser Leu Arg Pro
540
Ser Leu Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Ser
355 Arg Pro Trp Met Pro Gly Thr Pro Arg Leu Pro Arg Leu Pro Gln 380
275
370 Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His 395 400
_
Ala Gln Cys Pro Tyr Gly Val Leu Leu Lys Inr HIS Cys 110 200 113
405 Ala Ala Val Thr Pro Ala Ala Gly Val Cys Ala Arg Glu Lys Pro Gln 430
Ala Ala Val Thr Pro Ala Ala dij Val did 430

Gly Ser Val Ala Ala Pro Glu Glu Glu Asp Thr Asp Pro Arg Arg Leu 435 440 445
Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe 460
Val Arg Ala Cyc Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser
470 410
Ang Hig Asp Glu Arg Arg Phe Leu Arg Asp Thr Lys Lys The He der
1Q5 · 490
Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met
cuu 909 ,,,
Ser Val Arg Asp Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys 520 525
515 520 525  Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe
F3E 240
530 535  Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe 560
550 500
The Typ Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr
. ECE 970
Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His
500 500 · 500
Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln 605
His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile
71 E 1170
Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val
გვე დან
Cly Alo Arg The Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu The Ser
645 000
Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg
660 600
Pro Gly Leu Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg
. 675 680
Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro
690 695 700  Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile 720
710
705

Pro Gln Asp Arg Leu Thr Glu Val IIe Ala Ser IIe IIe Lys Pro Gln 735
Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His
740
Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp 765 760 765
Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Thr Ser
77E 10V
Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Leu Asn Glu
700 (90
Ale Son Son Gly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His
QN5 OIV
Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro
000 825
Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly Asp
025 840
Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu 860
Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala 870 875 880
865 870 875  Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys
030
Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu
905
Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe
045 920
Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu val Gli Ser
035 340
Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe 960
050
Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly 975 976
UBE 310
Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn 985 986 987
980 985 Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Gln
Ser Leu Gin Thr vai Cys im Ash 120 27 27 27 27 27 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20
MMS MYYY

Ala Tyr Arg Phe His Ala Cys Val Leu Gln Leu Pro Phe His Gln Gln	
1015	
Val Trp Lys Asn Pro Thr Phe Phe Leu Arg Val IIe Ser Asp Thr Ala	
1030	
1025 1030 For Leu Cys Tyr Ser Ile Leu Lys Ala Lys Asn Ala Gly Met Ser Leu Ser Leu Cys Tyr Ser Ile Leu Lys Ala Lys Asn Ala Gly Met Ser Leu 1050 1055	
1045	
Gly Ala Lys Gly Ala Ala Gly Pro Leu Pro Ser Glu Ala Val Gln Trp	
1000 1000	
Leu Cys His Gln Ala Phe Leu Leu Lys Leu Thr Arg His Arg Val Thr	
1000	
Tyr Val Pro Leu Gly Ser Leu Arg Thr Ala Gln Thr Gln Leu Ser	:
100	
Todo Lou Pro Gly Thr Thr Leu Thr Ala Leu Glu Ala Ala Ala Asn	
4110	
1105 Pro Ala Leu Pro Ser Asp Phe Lys Thr Ile Leu Asp	
1125 1130	
<210> 32	
<210> 32 <211> 3396	
<211> 3330 <212> DNA	
<213> Homo sapiens	
<220>	
<221> CDS	
<223> (1)(3399)	
400. 80	D
met one car tac can acc att car tac can acc att car tac car acc	)
Mat Dro Arg Ala Pro Arg Cys Arg Ala val Arg Bei Bed Bod Ind	
. IV	e
ata eta eca eta gee acg tte gtg egg ege eta ses	U
Tie Typ Arg Glu Val Leu Pro Leu Ala ini The vai mg 120	
20	44
tax over eta ata car cec ggg gat to soo at	-1·I
pro Gly Gly Trp Arg Leu Val Gln Arg Gly Asp 110 Mid 1112	
25 40	192
the state of the case tag cate of the state	بان ا
Ala Leu Val Ala Gln Cys Leu Val Cys Val Fro 119 ASP Ala 113	
50 55 60	

Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65         70         75         80           gtg gee ega gtg etg cag agg ctg tge gas ege geg aag aac gtg yal Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85         90         95           ctg gee tte gee tte geg etg etg gae ggg gee eeg geg gge ee ee ee ee ee ee	CCC	ccc	gcc	gcc	ccc	tcc Ser	ttc Phe	cgc Arg	cag Gln	gtg Val	tcc Ser	tgc Cys	ctg Leu	aag Lys	gag Glu	ct. Le	g u	240
Stg gcc   cga gtg   ctg   cag   agg   ctg   tgc   gag   cgc   gcc   gag   aac   gtg   288	65					70					75					0	U	
Val Ala Arg Val Leu 6ln Arg Leu Cys Glu Arg Gly Ala Lys Ash Val         85       90       95         ctg gcc ttc ggc ttc gcc ctg gac ggg gcc cgc ggg ggc ccc ccc       336         Leu Ala Phe 6ly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro 100         100       105       110         gag gcc ttc acc acc acc acc acc acc agc gtg cgc gg gg cgc agc tac ctg ccc acc acc acg gtg acc         Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Ash Thr Val Thr         115       120       125         gac gac act gc gg ggg agc ggg ggg ct gc gc gc gc gg ggg gcg gcg	art ar	gcc	cga	gtg	ctg	cag	agg	ctg	tgc	gag	cgc	ggc	gcg	aag	aac	gt	g	288
S5   90   95   96   96   96   96   96   96   96	Val	Ala	Arg	Val	Leu	Gln	Arg	Leu	Cys	Glu	Arg	Gly	Ala	Lys	ASII	۷a	ιŢ	
ctg gcc ttc ggc ttc gcg ctg gtc gtg gac ggg gcc sss sss ss					85					90					90			336
gag gcc ttc acc acc agc gtg cgc agc tac ctg ccc aac acc gtg acc Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr 115 120 125  gac gca ctg cgg ggg agc ggg ggg tgg ggg ctg ctg ctg ctg cgc cgc	ctg	gcc	ttc	ggc	ttc	gcg	ctg	ctg	gac	ggg	gcc Ala	cgc Are	Glv Glv	Glv	Pro	Pr		000
gag gcc ttc acc acc agc gtg cgc agc tac ctg ccc aac acg gtg acc         384           Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr 115         120         125           gac gca ctg cgg ggg agc ggg agc ggg ggg ctg ctg ctg ctg ctg cgc gtg data         432           Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Leu Arg Arg Val 130         135         140           ggc gac gac gac gtg ctg tt cac ctg ctg gca cgc tgc gcg ctc ttt gtg Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val 145         150         155         160           ctg gtg gct ccc agc gc gc ctg tgc gcc tac cag gtg tgc gtg gtg gcg ctg gtg gcg ctg gtg g	Leu	Ala	Phe			Ala	Leu	Leu	ASP 105	ату	MIA	MI B	013	110	110			
Single   Ala   Phe   Thr   Thr   Ser   Val   Arg   Ser   Tyr   Leu   Pro   Ash   Thr   Val   Thr			44.	100	000	200	oto	<b>ሮ</b> ጀር		tac	ctg	ccc	aac		gtg	a	СС	384
115   120   125   126   125   126   125   126   126   127   130   135   140   130   135   140   130   135   140   140   140   150   150   155   160   155   160   155   160   155   160   155   160   155   160   170   175   165   170   175   175   160   175   170   175   175   160   170   175   175   170   175   175   180   185   190   180   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   190   185   185   190   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185   185	gag	gcc . Ala	TLC	acc	acc Thr	Ser	ъъ Val	Arg	Ser	Tyr	Leu	Pro	Asn	Thr	Val	Tl	ar	
gac gca ctg cgg ggg ggg ggg ggg ggg ggg ggg ggg			115					120					125					
Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Leu Arg Arg validation 135 140  ggc gac gac gac gtg ctg gtt cac ctg ctg gca cgc tgc gcg ctc ttt gtg 480  ggc gac gac gtg ctg gtt cac ctg ctg gca cgc tgc gcg ctc ttt gtg 480  ggc gac gac gtg ctg gtt cac ctg ctg gca cgc tgc gcg ctc ttt gtg 480  145 150 155 160  ctg gtg gct ccc agc tgc gcc tac cag gtg tgc ggg ccg ccg ctg tac 528  Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr 165 170 175  cag ctc ggc gct gcc act cag gcc cgg ccc ccg cca cac gct agt gga 576  Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly 180 185 190  ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg 624  Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg 195 200 205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg 210 215 220  ggg ggc agt gcc agc cga agt ctg cag agt ctg ccg ttg cca agg gcc agg gcc agg gcc agg ccc agg cgt cgc ggc gcc gcc ggc gcc ggc gcc ggc gcc ggg gcc agg gcc agg gcc ggc gag gcc ggc gcc gc	gac	gca	ctø	. cgg	ggg	agc	ggg	gcg	tgg	ggg	ctg	ctg	ctg	cgc	cgc	g	tg	432
130	Asp	Ala	Lev	Arg	Gly	Ser	Gly	Ala	Trp	Gly	Leu	Leu	Leu	Arg	Arg	y V	al	•
Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val  145		130					135	,				140	l					48U
145	ggo	gac	gad	gte	g cta	gtt	cac	ctg	; ctg	gca	cgo	tgo	gcg	CTO	tt.	L g	Lg al	400
145       150       160       160       160       160       160       528         Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr       165       170       175       175         cag ctc ggc gct gcc act cag gcc cgg ccc cgg ccc ccg cca cac gct agt gga       576         Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly       180       185       190         ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg       624         Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg       205         gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc       672         Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg       220         ggg ggc agt gcc agc cga agt ctg cag agt ctg ccg ttg cca agg ccc agg cgt       720         ggg ggc agt gcc agc cga agt ctg cag agt ctg ccg ttg ccc agg agg ccc agg cgt       720         ggg ggc agt gcc agc cga agt ctg cag agg cgg acg cgg agg ccc agg ggg tcc ttg ccc agg agg tcc agg ggg tcc ttg ccc agg agg ccc agg ggg tcc ttg ccc agg agg ccc agg ggg tcc ttg agg acg ac	Gly	Asp	Ası	Va.	Let			Let	Leu	ı Ala	Arg	, Uys	A 12	г гег	יגנים ו	= v 1	60	
Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr  165 170 175  cag ctc ggc gct gcc act cag gcc cgg ccc ccg cca cac gct agt gga 576  Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly  180 185 190  ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg 624  Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195 200 205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc  Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg  210 215 220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt  Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225 230 235 240  ggc gct gcc cct gag ccg gag cgc agg ccc tgg  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	145					150	)	. 4 .		e orto			r ccs	r ccs	z cti			528
cag etc ggc gct gcc act cag gcc cgg ccc ccg cca cac gct agt gga Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly  180  185  190  ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195  200  205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc cg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg  210  215  220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225  230  235  240  ggc gct gcc cct ggg ccg gag ccg gag ccg ccg gtg ggg agg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	cte	gte	gc	t cc	c ago	tgo - Coo	gco	tac Tvi	; cae . Clr	, gua n Vai	i Cva	s G1v	, Pro	Pro	Let	u T	yr	
cag ctc ggc gct gcc act cag gcc cgg ccc ccg cca cac gct agt gga 576  Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly  180  185  190  ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg 624  Pro Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195  200  205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc  Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg  210  215  220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc agg ccc agg cgt  Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225  230  235  240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggc cag ggg tcc tgg  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	Let	ı Val	l Ala	a Pr			5 M10	a 1,31	. 411	170	)				17	5		
Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly  180  185  190  ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195  200  205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg  210  215  220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225  230  235  240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	000	r ata	י ס'ס'	c øc	t. ge	c a.c	t car	g gc	c cgs	g cc	c cc	g cca	a ca	gc	t ag	tg	ga	576
ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg 624  Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195  200  205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg  210  215  220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225  230  235  240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	G1s	n Lei	- 66 1 GT	v Al	a Al	a Th	r Gli	n Ala	a Ar	g Pr	o Pr	o Pri	iH c	s Al	a Se	r (	lly	
ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat age soo agg  Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195 200 205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc  Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg  210 215 220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt  Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225 230 235 240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp				18	0				18	5				19	U			004
Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  195 200 205  gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg  210 215 220  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225 230 235 240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	cc	c cg	a ag	g cg	t ct	g gg	a tg	c ga	a cg	g gc	c tg	g aa	c ca	t ag	c gt	C 8	agg	624
gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg 210  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg 225  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp 255  672  672  672  672  673  674  675  676  676  677  678  679  679  670  670  670  670  670  670	Pr	o Ar	g Ar	g Ar	g Le	u Gl	у Су	s Gl	u Ar	g Al	a Tr	p As	n Hl	s se	r Va	LL A	Arg	
gag gcc ggg gtc ccc ctg ggc ctg cca gct ctg ggc ses das des de Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg 210  ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt 720  Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg 225  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp 255			19	15											rat a c	ror	<sub>ር</sub> <mark>ወ</mark> ገር	672
ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg 225 230 235 240 ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	ga	g gc	c gg	g gt	c cc	c ct	g gg	c ct	g cc	a go	C CC	g gg	L go	g ag a Ar	ig ae ig Ai	55 18	Arg	012
ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt  Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225  230  235  240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	G1			y Va	al Pr	o Le			u Pr	OAI	a II	29	.y A1	. (L 111	<b>6</b> 22.		3	r
Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  225 230 235 240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp		21	.0	<b>.</b>		44 00			·	e tt	e co			g ce	ec ag	gg	cgt	720
225 230 235 240  ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg 768  Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	gg	g gg	c ag	gt go	ec ag	50 CE	ia ae io Sa	su u an Ta	ים פינ זים ווי	no Le	eu Pi	o Ly	rs Ai	rg Pi	ro Ai	rg	Arg	
ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg 768 Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp			() De	ζΓ A.	ra b			, <b>,</b>			2;	35					240	
Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gin Gly Ser IIp	0,0	אר סו	ተ መ	ሮሮ ሮ፡	ct g	ag co	e ga	ag ca	gg ac	g c	cc g	tt gg	gg ça	ag gi	gg t	cc	tgg	
	58 G	lv A	la A	la P	ro G	lu Pi	ro G	lu Ai	rg Tl	nr P	ro Va	al G	ly G	ln G	13 2	er.	Trp	
	u.	-, -1								2	50				2	55		

gcc	cac	ccg	ggc 61v	agg Arg	acg Thr	cgt Arg	gga Gly	ccg Pro	agt Ser	gac Asp	cgt Arg	ggt Gly	ttc Phe	tgt Cys	gtg Val	816
			260					265					210			
gtg	tca	cct	gr.c	aga	ccc	gcc	gaa	gaa	gcc	acc	tct	ttg	gag	ggt	gcg	864
Val	Ser	Pro	Ala	Arg	Pro	Ala	Glu	Glu	Ala	Thr	Ser	геп	Glu	Gly	Ala	
		275					280					280		•		912
ctc	tct	ggc	acg	cgc	cac	tcc	cac	cca	tcc	gtg	ggc	CgC Are	Cag	His	His	012
Leu		Gly	Thr	Arg	His		His	Pro	2er	vai	300	M &	U 111	11,40	1110	
	290			tcc		295 + or	۰۵۵	cca	cca	cet		tgg	gac	acg	cct	960
gcg	ggc	CCC	cca	Con	Thn	guu 442	∪55 Arø	Pro	Pro	Arg	Pro	Trp	Asp	Thr	Pro	
_		Pro	Pro	pe1.	310	OCI	m 6	110		315	i				320	
305	000	000	et.e	tac	gcc	gag	acc	aag	cac	tto	cto	tac	tcc	tca	ggc Glv	1008
Cvs	Pro	Pro	Val	Tyr	Ala	Glu	Thr	· Lys	His	s Phe	Let	ı Tyr	Ser	Ser	u i j	•
				325					33(	}				000	,	1056
gao	aag	gae	cag	ctg	cgg	ccc	tco	tto	cta	a cto	ago	c tct	, cte	agg	ccc Pro	1056
Ası	Lys	Gli	ı Glr	Leu	l Arg	Pro	Sei	r Phe	e Le	ı Lei	ı Sei	r Sei	, per	I WIE	g Pro	
			340	)				34			+	~ `4·4-	35( t cts		tee	1104
ago	c cte	g act	t gg	gct	cgg	age	s ct	c gt	g ga.	g aco	e au n II	e Ph	e Lei	ı Gl	t tcc v Ser	
Sei	r Let			y Ala	a Are	g Arg	тые 36≀	u va n	i ui	u 111	, II	36	5 5		y Ser	
		35	5 . 		- data	* 00	JU Loc	ሌ <sub>ር</sub> ଉ በ	റ കുള്	g tt	g cc			g cc	c cag	1152
ag	g cc	c tg:	gat;	g cci 4 Dra	a 688	s ac v Thi	r Pr	o Ar	g Ar	g Le	u Pr	o Ar	g Le	u Pr	o Gln	
	27	n				37	5				38	0				
രണ	a ta	n to	e ca	a at	g cg	e cc	c ct	g tt	t ct	g ga	g ct	g ct	t gg	g aa	c cac	1200
ح Ar	e Tv	r Tr	ъ G1	n Me	t Ar	g Pr	o Le	u Ph	e Le	u Gl	u Le	eu Le	u Gl	y As	11 1113	
20	۶,				39	0				38	15				400	
	~ ^^	g te	c cc	c ta	.c gg	g gt	g ct	c ct	tc aa	ig ac	g ca	ac te	))	g ct	g cga	. 1248
A]	a Gl	n Cy	s Pr	о Ту	r Gl	y Va	.1 Le	eu Lo	eu Ly	rs Ti	ir H	is Cy	7S PI	то де 41	u nie	•
				40	)5				4	10				<b>T</b> .	LU	
go	et go	g gt	tc a	ec ec	a go	a go	c g	gt g	to t	gt go	CC C	gg ge na G	ag ad In L	vs Pi	ec cag ro Glr	•
A.	la Al	la Va			o Al	la Al	la. G	1y V	al ()	ys A	ıa A	ı, u	4	30 30	ro Glr	
			. 47	20						ac a	ca g	ac c			gc ct	g 1344
g	gc to	ct g	tg g	cg go	CC CC	ro E	28 5 ln G	us s In G	lu A	sp T	hr A	sp P	ro A	rg A	rg Le	u
G	IA 2			ıa A	TO L	, U U	4	40		* "		4	45			
		4	35				_									

gtg cag ctg ctc cgc cag cac agc agc ccc tgg cag sts tad age Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe  460	1392
gtg cgg gcc tgc ctg cgc cgg ctg gtg ccc cca ggc ctc tgg ggc tcc  Val Arg Ala Cys Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser  480	1440
agg cac aac gaa cgc cgc ttc ctc agg aac acc aag aag ttc atc tcc Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Phe Ile Ser 485 490 495	1488
ctg ggg aag cat gcc aag ctc tcg ctg cag gag ctg acg tgg aag atg Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met	1536
age gtg egg gae tge get tgg etg ege agg age eea ggg gtt gge tgt Ser Val Arg Asp Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys	1584
gtt ccg gcc gca gag cac cgt ctg cgt gag gag atc ctg gcc aag ttc Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe	1632
ctg cac tgg ctg atg agt gtg tac gtc gtc gag ctg ctc agg tct ttc  ctg cac tgg ctg atg agt gtg tac gtc gtc gag ctg ctc agg tct ttc  Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe  560	1680
ttt tat gtc acg gag acc acg ttt caa aag aac agg ctc ttt ttc tac Phe Tyr Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr	1728
cgg aag agt gtc tgg agc aag ttg caa agc att gga atc aga cag cac Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His	1776
ttg aag agg gtg cag ctg cgg gag ctg tcg gaa gca gag gtc agg cag Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln	1824
cat cgg gaa gcc agg ccc gcc ctg ctg acg tcc aga ctc cgc ttc atc His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile	1872
610  ccc aag cct gac ggg ctg cgg ccg att gtg aac atg gac tac gtc gtg  Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val  625  630  640	1920

gga Gly	gcc Ala	aga Arg	acg Thr	Phe	cgc Arg	aga Arg	gaa Glu	aag Lys	agg Arg 650	gcc Ala	gag Glu	cgt Arg	ctc Leu	acc Thr 655	nei	r r	1968
0.070	ort or	220	øra.	645 ctg	ttc	agc	gtg	ctc		tac	gag	cgg	gcg	cgg	cg	С	2016
Arg	Val	Lys	Ala	Leu	Phe	Ser	Val	Leu 665	Asn	Tyr	G1u	Arg	Ala 670	Arg	Ar	g	
ccc	ggc	ctc	ctø	ggc	gcc	tct	gtg	ctg	ggc	ctg	gac	gat	atc	cac	ag	g	2064
Pro	Gly	Leu 675	Leu	Gly	Ala	Ser	Val 680	Leu	Gly	Leu	Asp	Asp 685	Ile	His	Aŗ	g	
ውሶር	t or o	cgc	acc	ttc	gtg	ctg	cgt	gtg	cgg	gcc	cag	gac	ccg	ccg	cc	t	2112
Ala	Trp 690	Arg	Thr	Phe	Val	Leu 695	Arg	Val	Arg	Ala	Gln 700	· Asp	Pro	Pro	P <u>.</u> r	O'	
ฮลฮ	at o	tac	ttt	gtc	aag	gtg	gat	, gtg	ace	ggc	gcg	; tac	gao	acc	: at	tc	2160
Glu	Leu	Tyr	Phe	. Val	Lys	Val	Asp	Val	Thi	, G12	Ala	t Tyr	· Ası	Thi	1.	16	
705					710	· .				715	)				1 2	20	2208
ccc	cag	gao	agg	cto	ace	gag	gto	ato	gc	ago	ati	ali	i aa	a cci s Pri	o G	ln	
Pro	Gln	Ası	Arg	g Let		· GIT	ı va.		730	1 26	[ 110	יו די	, ,,,	73	5		
	000	. + 2	n ter	725 gtg	) നേവുന്	t ces	r tai	t gc			c ca	g aa	g gc	c gc	c c	at	2256
aac Aen	ace Thr	י דער י דער	r Cv:	s Vai	l Ar	g Ar	y Ty	r Ala	a Va	l Va	1 Gl:	n Ly	s Al	a Al	a H	is	
			74	n				74	5				10	U			9904
ggg	ca c	gt	c cg	c aa	g gc	c tt	c aa	g ag	c ca	c gt	c tc	tac	c tt	g ac	a g	ac	2304
Gly	Hi			g Ly	s Al	a Ph			r Hi	s Va	T 26	r in 76	т. Б	u III	T U	цэр	
		75	5	c at	~ ^#		76 ++		ል ኳር	t ca	ıc ct			ıg ac	c a	ıgc	2352
cto	ca.	g cc n Dn	g ta ∽ Tu	c at r Me	g Ug t Ar	a ca e Gl	n Ph	e Va	.l Al	a Hi	s Le	u Gl	n G	lu Tł	ır S	Ser	
	77	n				77	5				78	30					
c c	or of	σ a 9	g ga	t gc	c gt	c gt	.c at	c ga	g ca	ig ag	gc to	ec to	c c¹	tg aa	at 8	gag	2400
Pr	o Le	u Ar	rg As	sp Al	a Va	ıl Va	ıl II	le Gl	u G	in Se	er 56	er Se	er L	eu As	>ш '	800	
78	<b>ب</b>				79	90				$T_{i}$	95				,	OVO	2448
gc	c ag	c ag	gt gg	gc ct	c ti	c ga	ic gi	te ti	C C	ta c	gc U ra Di	tc a ha Mi	og U. et C	ys H	is	His	2110
Al	a Se	er So	er G	ly Le		ne As	sp Va	11 T	א תישו	eu n 10	16 I.	HO 11		8	15		
. د.	است	- cr - C-	ac 5.	80 tc ag	מים מים פר	ጀር ጸነ	ag ta	cc't			ag t	gc c	ag g	gg a	tc	ccg	2496
g ( Δ 1	ig gi	al A	su a rg T	le A	rg G	ly L	ys \$	er T	yr V	al G	ln C	ys G	ln G	ly I	le	Pro	
I.I	LCL Y (	11		20	<u>.</u>	- '		8	25				8	30			

•																	0544
cag	ggc	tcc	atc	ctc	tcc	acg	ctg	ctc	tgc	agc	ctg	tgc	tac	ggc	ga	ac	2544
Gln	Gly	Ser	Ile	Leu	Ser	Thr	Leu	Leu	Cys	Ser	Leu	Cys	Tyr	Gly	As	sp	
		835					840					845					0500
atg	gag	aac	aag	ctg	ttt	gcg	ggg	att	cgg	cgg	gac	ggg	ctg	ctc	G,	tg	2592
Met	Glu	Asn	Lys	Leu	Phe	Ala	Gly	Ile	Arg	Arg	Asp	Gly	Leu	Leu	. <b>L</b> i	eu	
	850					855					860						2640
cgt	ttg	gtg	gat	gat	tt¢	ttg	ttg	gtg	aca	cct	cac	ctc	acc	cac	g	cg	2640
Arg	Leu	Val	Asp	Asp	Phe	Leu	Leu	Val	Thr	Pro	His	Leu	Thr	HIS	i A	.1a 80	
865					870					875					o	00	2688
aaa	acc	ttc	ctç	agg	acc	ctg	gtc	cga	ggt	gtc	cct	gag	tat	gge	; L	gc ma	<b>2</b> 000
Lys	Thr	Phe	Leu	Arg	Thr	Leu	Val	Arg	Gly	Val	Pro	Glu	Tyr	PUI GT2	/ (	ys	
				885	-				890					090	)		2736
gtg	gtg	aac	ttg	cgg	aag	aca	. gtg	gtg	aac	ttc	CCT	gta . v.l	ı gaa	. gau	s E	545 11 m	2100
Val	Val	Asn	Let	ı Arg	Lys	Thr	Val	Val	Asn	Phe	Pro	) va.ı	910	i noj	p t	ı Lu	
			900	)				905							a 1	ttc	2784
gcc	ctg	ggt	ggo	acg	gct	; ttt	gtt	cag	ate	CCE	gc	, cac	. 684 - 613	 . Te	a 1	?he	
Ala	. Leu	G13	r Gly	Thr	· Ala	Phe	· Val	Gln	Met	. Pro	) WIG	2 H13	5 UI) 5	ш	u 1	. 110	
		915	5	;			920			* 200				z ca	g ;	agc	2832
ccc	tgg	tgo	gg	c cte	cte	g cte	g gan	t acc	. Cgs	t Thi	r T.e.	5 500 11 Gli	u Vai	, 01 1 G1	n i	Ser	
Pro			s GI;	y Lei	ı Lei			p Thi	, WLS	5 1111	94	ս սու Ո	<b>L</b> 12.	•			
	930	)				93		a + a	ati	റ മത്			t ct	c ac	c	ttc	2880
gao	tao	e te	c ag	c ta	t gc	c cga	g ac - mh	c tco r Se	n II.	o Ar	а БС σ Al	a Se	r Le	u Th	ır	Phe	
		r Se	r Se	r Ty			g 111	I De	. 11	95	5 111 5					960	
94	5		4.4.		95	U + ~~	~ ~ ~	g aa	c at			c aa	a ct	c ti	t	ggg	2928
aa	c cg	c gg	c tt	c aa	g gc	6 88 6 61	5 45 7 Ar	g As	n Me	t Ar	e Ar	g Ly	s Le	u Pl	<u>je</u>	Gly	
As	n Ar	g Gl	y Pn			a ui	улі	5 ns	97	0	G	J		9'	75		
٠.			+	96	or to	+ ^2	៤ ១០	c ct			g ga	it tt	g ca	g g	tg	aac	2976
gt	c tt	g cg	g Ci	g aa Iu	s Cv	e Hi	s Se	er Le	n Ph	e Le	u As	sp Le	eu Gl	n V	al	Asn	
٧a	I Le	u AI	.g re		S Cy	2 111	, 5 DC	98	5			-	99	90			
			JC	ov ort	er to	tr ar	าก ลล	ac at		ic aa	ig at	tc ct	tc c1	g c	tg	cag	3024
ag	C CT	ic ca	ig ac	e Vs	45 VE	o at	or As	sn Il	е Ту	r Ly	rs I	le L	eu Lo	eu L	eu	Gln	
. 8€	er Le	eu G. 99		11 10	rı O)	. D 11	11	000	0				1005	ว์			
	. n. 4	93	7U -rat +-	ft og	ስ የ	na te		tg ct	g ca	ag ci	te e	ca t	tt ca	at c	ag	caa	3072
go	eg ta	ic di	gg l ng Di	ho H	ic A	la C	vs V:	al Le	eu G	ln L	eu P	ro P	he H	is G	lln	Gln	
A.			rg r	(1C 11.	13 A.	ıu O,	101	 5				1	020				
	Τí	010					X O T	-									

<220>

gtt	tgg	aag	aac	ccc	aca	ttt	ttc	ctg	cgc	gtc	atc	tct	gac	acg	gcc	3120
Val	Trp	Lys	Asn	Pro	Thr	Phe	Phe	Leu	Arg	Val	He	ser	Asp	Inr	Ala	1040
1025					10	30					1035	)				1040
toc	ctc	tgc	tac	tcc	atc	$\operatorname{ctg}$	aaa	gcc	aag	aac	gca	ggg	atg	tcg	ctg	3168
Ser	Leu	Cys	Tyr	Ser	He	Leu	Lys	Ala	Lys	Asn	Ala	Gly	Met	Ser	ьeu	
				1049	5				16	)50					1000	2240
aaa	gcc	aag	ggc	gcc	gc¢	ggc	cct	ctg	ccc	tcc	gag	gcc	gtg	cag	tgg	3216
Glv	Ala	Lys	Gly	Ala	Ala	Gly	Pro	Leu	Pro	Ser	Glu	Ala	Val	ATII	Irp	
			1060	)				1	065					1011	U	2221
cte	tgc	cac	caa	gca	ttc	ctg	ctc	aag	ctg	act	cga	çac	cgt	gtc	acc	3264
Len	Cvs	His	Gln	Ala	Phe	Leu	Leu	Lys	Leu	Thr	Arg	His	Arg	Vai	Thr	
		107	5				1	080					108	อ		
tac	et.e	cca	ctc	ctg	ggg	tca	. ctc	agg	aca	gcc	cag	acg	cag	ctg	agt	3312
Tyr	Va1	Pro	Leu	Leu	Gly	Ser	Leu	Arg	Thr	Ala	. Gln	Thr	Gln	Leu	Ser	
	109	Ω				1	095					110	U			
<b>്</b> ഉ	220	oto	ccg	ggg	ace	ace	cte	gact	gcc	ctg	gag	gco	gca	gcc	aac	3360
Δrσ	Lvs	Let	Pro	Gly	Thr	Thr	Let	ı Thi	· Ala	Leu	Glu	Ala	. Ala	ı Ala	. Asn	
110		~~				110					111	.5				1120
ተርወ	ีฮตล	cts	g ccc	tca	a gad	: tto	aas	g acc	ato	cte	gac	;				3396
Pro	Ala	Lei	ı Pro	Sei	· Asj	Phe	E Ly:	s Thi	: Ile	e Lev	ı Ası	)				
110				112					:	1130						
<21	.0> 3	33														
	.1> 2															
	2> I							-								
			ficia	al S	eque	nce										
<b>20</b> 4	201															
<2	23> 1	)esc	ript	ion (	of Ar	tifi	cial	Seq	uenc	e: aı	rtif	icia	llys	ynth	esized	l primer
	quen															
	00>															0.1
tt	ggct	tcca	ggc	cata	att	g										21
	10>															
	11>															
		DNA														
			ifici	al S	Seque	ence										
		X=2 7 8			•											

<223> Description of Artificial Sequence: artificia	lly synthesized primer
sequence	
<400> 34	20
aagagggcag atctatcgga	20
<210> 35	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	ll anotherized primer
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificial</pre>	ally synthesized primor
sequence	
<400> 35	20
atggatctcc tgaaggtgct	
. <210> 36	,
<211> 20	
<212> DNA	
<213> Artificial Sequence	•
<220>	ially synthesized primer
<220> <223> Description of Artificial Sequence: artifici	[ally Synchosized 11 ==
sequence	·
<400> 36	20
aagagggcag atctatcgga	
<210> 37	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	Sally synthesized primer
<220> <223> Description of Artificial Sequence: artific	taily synonestrea t-
sequence	
<400> 37	23
ggaagagtga gcggccatca agg	
<210> 38	
<211> 22	
<212> DNA	
<213> Artificial Sequence	•
<220>	

tificially gym	thesized primer
<223> Description of Artificial Sequence: artificially syn	thesized by imor
sequence	
<400> 38	22
ctgctggaga ggttattcct cg	
<210> 39	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	othesized primer
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificially syr</pre>	ichestaed bi imer
sequence	
<400> 39	24
gccaacacca acctgtccaa gttc	21
<210> 40	
<211> 24	
<212> DNA	
<213> Artificial Sequence	· .
<220>	mthesized nrimer
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificially sy</pre>	HOHESTECK Primor
sequence	
<400> 40	24
tgcaaaggct ccaggtctga gggc	<b>2</b> 1
<210> 41	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	the-sized naimar
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificially s;</pre>	Auchesized brimer
sequence	
<400> 41	19
ctctctctcc tcaggacaa	. 19
<210> 42	•
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	

;81355613956

<223> Description of Artificial Sequence: artificia	lly synthesized primer	
sequence	•	
<400> 42	22	
tggagcaaaa cagaatggct gg		
<210> 43		
<211> 24	•	
<212> DNA		
<213> Artificial Sequence		
<220>	ally synthesized Drimer	•
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificial</pre>	ally symphosized parameter	
sequence		
<400> 43	. 24	
ctgagatgtc tctctctctc ttag		
<210> 44		
<211> 20		
<212> DNA		
<213> Artificial Sequence	•	
<220>	ially synthesized prime	ŀΓ
<220> <223> Description of Artificial Sequence: artific		
sequence	•	
<400> 44	20	
acaatgactg atgagagatg		
<210> 45	·	
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220> <223> Description of Artificial Sequence: artific	ially synthesized prim	er
<223> Description of Artificial Sequence. and office	, TWI II	
sequence	•	
<400> 45	18	3
cagacctgaa ggagacct		
<210> 46		
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220>		

<223> Description of Artificial Sequence: artificially synthesized	brimer.
sequence	•
<400> 46	18
gtcagcgtaa acagttgc	,
<210> 47	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	d primor
<223> Description of Artificial Sequence: artificially synthesize	C blimer
sequence	
<400> 47	20
gccaagaagc ggatagaagg	20
<210> 48	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	ad nrimer
<223> Description of Artificial Sequence: artificially synthesize	ou primer
sequence	
<400> 48	20
ctgtggttca gggctcagtc	20
<210> 49	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	ed nnimer
<223> Description of Artificial Sequence: artificially synthesiz	ed brimer
sequence	
<400> 49	20
cagtggagct ggacaaagcc	20
<210> 50	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	

<223> Description of Artificial Sequence: artif	1claily synthesized primer
sequence	
<400> 50	20
tagcgacggt tctggaacca	20
<210> 51	·
<211> 20	
<212> DNA	;
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: artif	ficially synthesized primer
sequence	
<400> 51	20
ctgtcatctc actatgggca	20
<210> 52	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	at the signed primary
<223> Description of Artificial Sequence: arti	ficially synthesized primer
sequence	
<400> 52	20
ccaagtccga gcaggaattt	20
<210> 53	
<211> 20	
<212> DNA	
<213> Artificial Sequence	•
<220>	ficially synthesized primer
<223> Description of Artificial Sequence: art	Ilicially synchesized primer
sequence	
<400> 53	20
aagacgtcaa gccctttgtg	20
<210> 54	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	

<223> Description of Artificial Sequence: artificially synth	esized primer
sequence	
<400> 54	20
aaaggagcac actttggtgg	<b>3</b>
<210> 55	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	hasized primer
<pre>&lt;220&gt; &lt;223&gt; Description of Artificial Sequence: artificially synt</pre>	Hesized brimer
sequence	
<400> 55	20
agcaagaata cgatgccatc	20
<210> 56	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223>Description of Artificial Sequence: artificially	
synthesized primer sequence	
<400> 56	20
gaaggggtgg tggtacggtc	20
<210> 57	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	thosisod primer
<220> <223> Description of Artificial Sequence: artificially syn	ICHESIZED PLIMO
sequence	
<400> 57	20
tgggaatggc tatgtcagtg	20
<210> 58	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	

<223> Description of Artificial Sequence: artificially synthesized pr	imer
sequence	
<400> 58	20
ctggtaatct gtgttgtagg	20
<210> 59	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
2000	_:
<220> <223> Description of Artificial Sequence: artificially synthesized p	Limer
sequence	•
<400> 59	20
caagggcctc tccaaacttg	20
<210> 60	
<211> 20	•
<212> DNA	
<213> Artificial Sequence	
<220>	nniman
<220> <223> Description of Artificial Sequence: artificially synthesized page 1.	)[ IMCI
sequence	
<400> 60	20
gccccagaga cagcattcca	20
<210> 61	
<211> 268	
<212> PRT	
<213> Homo sapiens	
<400> 61	
Met Ala Gln Pro Leu Cys Pro Pro Leu Ser Glu Ser Trp Met Leu Ser	
1 5 10 15	
To the Cro	
Ala Ala Trp Gly Pro Thr Arg Arg Pro Pro Pro Ser Asp Lys Asp Cys	
Ala Ala II p dij 110 im im a	
20 25 30	

40

35

45

Asp Ser Pro Val Ala Ser Pro Ala Arg Pro Gly Thr Leu Arg Asp Pro 50 55 60
Arg Ala Pro Ser Val Gly Arg Arg Gly Ala Arg Ser Ser Arg Leu Gly 65 70 75 80
Ser Gly Gln Arg Gln Ser Ala Ser Glu Arg Glu Lys Leu Arg Met Arg 85 90 95
Thr Leu Ala Arg Ala Leu His Glu Leu Arg Arg Phe Leu Pro Pro Ser 100 105 110
Val Ala Pro Ala Gly Gln Ser Leu Thr Lys Ile Glu Thr Leu Arg Leu 115 120 125
Ala Ile Arg Tyr Ile Gly His Leu Ser Ala Val Leu Gly Leu Ser Glu 130 135 140
Glu Ser Leu Gln Arg Arg Cys Arg Gln Arg Gly Asp Ala Gly Ser Pro 145 150 155 160
Arg Gly Cys Pro Leu Cys Pro Asp Asp Cys Pro Ala Gln Met Gln Thr 165 170 175
Arg Thr Gln Ala Glu Gly Gln Gly Gln Gly Arg Gly Leu Gly Leu Val 180 185 190
Ser Ala Val Arg Ala Gly Ala Ser Trp Gly Ser Pro Pro Ala Cys Pro 195 200 205
Gly Ala Arg Ala Ala Pro Glu Pro Arg Asp Pro Pro Ala Leu Phe Ala 210 215 220
Glu Ala Ala Cys Pro Glu Gly Gln Ala Met Glu Pro Ser Pro Pro Ser

230

225

235

Pro	Leu	Leu	Pro	Gly 245	Asp	Val	Leu	Ala	Leu 250	Leu	G1u	Thr	Trp	Met 255	Pro

Leu Ser Pro Leu Glu Trp Leu Pro Glu Glu Pro Lys 265 260

<210> 62

<211> 804

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<223> (1)..(807)

atg gcc cag ccc ctg tgc ccg ccc ctc tcc gag tcc tgg atg ctc tct <400> 62 48 Met Ala Gln Pro Leu Cys Pro Pro Leu Ser Glu Ser Trp Met Leu Ser 10 5 1

gcg gcc tgg ggc cca act cgg cgg ccg ccc tcc gac aag gac tgc 96 Ala Ala Trp Gly Pro Thr Arg Arg Pro Pro Pro Ser Asp Lys Asp Cys 25 20

gge ege tee ete gte teg tee eea gae tea tgg gge age ace eea gee 144 Gly Arg Ser Leu Val Ser Ser Pro Asp Ser Trp Gly Ser Thr Pro Ala 45 40 35

gae age eee gtg geg age eee geg egg eea gge ace ete egg gae eee 192 Asp Ser Pro Val Ala Ser Pro Ala Arg Pro Gly Thr Leu Arg Asp Pro 60 55 50

cgc gcc ccc tcc gta ggt agg cgc ggc gcg cgc agc agc cgc ctg ggc 240Arg Ala Pro Ser Val Gly Arg Arg Gly Ala Arg Ser Ser Arg Leu Gly - 75 70 65

age ggg cag agg cag age gcc agt gag egg gag aaa etg ege atg ege 288 Ser Gly Gln Arg Gln Ser Ala Ser Glu Arg Glu Lys Leu Arg Met Arg 90 85

acg ctg gcc cgc gcc ctg cac gag ctg cgc cgc ttt cta ccg ccg tcc Thr Leu Ala Arg Ala Leu His Glu Leu Arg Arg Phe Leu Pro Pro Ser 100 105 110	; 330 ;
gtg gcg ccc gcg ggc cag agc ctg acc aag atc gag acg ctg cgc ct Val Ala Pro Ala Gly Gln Ser Leu Thr Lys Ile Glu Thr Leu Arg Le 115 120 125	g 384 u
gct atc cgc tat atc ggc cac ctg tcg gcc gtg cta ggc ctc agc ga Ala Ile Arg Tyr Ile Gly His Leu Ser Ala Val Leu Gly Leu Ser Gl 130 135 140	g 432 .u
gag agt ctc cag cgc cgg tgc cgg cag cgc ggt gac gcg ggg tcc cc Glu Ser Leu Gln Arg Arg Cys Arg Gln Arg Gly Asp Ala Gly Ser Pi 145 150 155	et 480 ro 60
cgg ggc tgc ccg ctg tgc ccc gac gac tgc ccc gcg cag atg cag at Arg Gly Cys Pro Leu Cys Pro Asp Asp Cys Pro Ala Gln Met Gln T	ca 528 hr
cgg acg cag gct gag ggg cag ggg cag ggg cgc ggg ctg ggc ctg g Arg Thr Gln Ala Glu Gly Gln Gly Gln Gly Arg Gly Leu Gly Leu V 180 185 190	gta 576 Val
tcc gcc gtc cgc gcc ggg gcg tcc tgg gga tcc ccg cct gcc tgc c Ser Ala Val Arg Ala Gly Ala Ser Trp Gly Ser Pro Pro Ala Cys 1 195 200 205	ccc 624 Pro
gga gcc cga gct gca ccc gag ccg cgc gac ccg cct gcg ctg ttc Gly Ala Arg Ala Ala Pro Glu Pro Arg Asp Pro Pro Ala Leu Phe 210 215 220	gcc 672 Ala
gag gcg gcg tgc cct gaa ggg cag gcg atg gag cca agc cca ccg Glu Ala Ala Cys Pro Glu Gly Gln Ala Met Glu Pro Ser Pro Pro 225 230 235	tcc 720 Ser 240

ccg ctc ctt ccg ggc gac gtg ctg gct ctg ttg gag acc tgg atg ccc 768 Pro Leu Leu Pro Gly Asp Val Leu Ala Leu Leu Glu Thr Trp Met Pro 255 250 245 804 ctc tcg cct ctg gag tgg ctg cct gag gag ccc aag Leu Ser Pro Leu Glu Trp Leu Pro Glu Glu Pro Lys. 265 260 <210> 63 <211> 215 <212> PRT <213> Homo sapiens <400> 63 Met Gly Ser Pro Arg Ser Ala Leu Ser Cys Leu Leu Leu His Leu Leu 15 10 5 1 Val Leu Cys Leu Gln Ala Gln Val Thr Val Gln Ser Ser Pro Asn Phe 30 25 20 Thr Gln His Val Arg Glu Gln Ser Leu Val Thr Asp Gln Leu Ser Arg 45 40 35 Arg Leu Ile Arg Thr Tyr Gln Leu Tyr Ser Arg Thr Ser Gly Lys His 60 55 50 Val Gln Val Leu Ala Asn Lys Arg Ile Asn Ala Met Ala Glu Asp Gly 75 70 65 Asp Pro Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly Ser Arg 90 85 Val Arg Val Arg Gly Ala Glu Thr Gly Leu Tyr Ile Cys Met Asn Lys 110 105

125

Lys Gly Lys Leu Ile Ala Lys Ser Asn Gly Lys Gly Lys Asp Cys Val

120

100

Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Leu Gln Asn Ala 130 135 140	
Lys Tyr Glu Gly Trp Tyr Met Ala Phe Thr Arg Lys Gly Arg Pro Arg 145 150 155 160	
Lys Gly Ser Lys Thr Arg Gln His Gln Arg Glu Val His Phe Met Lys 165 170 175	
Arg Leu Pro Arg Gly His His Thr Thr Glu Gln Ser Leu Arg Phe Glu 180 185 190	
Phe Leu Asn Tyr Pro Pro Phe Thr Arg Ser Leu Arg Gly Ser Gln Arg 195 200 205	
Thr Trp Ala Pro Glu Pro Arg 210	
<210> 64 <211> 645	
<212> DNA <213> Homo sapiens <220>	
<221> CDS <223> (1)(648)	
<400> 64 atg ggc agc ccc cgc tcc gcg ctg agc tgc ctg ctg ttg cac ttg ctg Met Gly Ser Pro Arg Ser Ala Leu Ser Cys Leu Leu Leu His Leu Leu 1 5 10 15	48
gtc ctc tgc ctc caa gcc cag gta act gtt cag tcc tca cct aat ttt Val Leu Cys Leu Gln Ala Gln Val Thr Val Gln Ser Ser Pro Asn Phe 20 25 30	96
aca cag cat gtg agg gag cag agc ctg gtg acg gat cag ctc agc cgc	144

Thr Gln His Val Arg Glu Gln Ser Leu Val Thr Asp Gln Leu Ser Arg 35 40 45	
cgc ctc atc cgg acc tac caa ctc tac agc cgc acc agc ggg aag cac Arg Leu Ile Arg Thr Tyr Gln Leu Tyr Ser Arg Thr Ser Gly Lys His 50 55 60	192
gtg cag gtc ctg gcc aac aag cgc atc aac gcc atg gca gag gac ggc Val Gln Val Leu Ala Asn Lys Arg Ile Asn Ala Met Ala Glu Asp Gly 65 70 75 80	240
gac ccc ttc gca aag ctc atc gtg gag acg gac acc ttt gga agc aga Asp Pro Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly Ser Arg 85 90 95	288
gtt cga gtc cga gga gcc gag acg ggc ctc tac atc tgc atg aac aag Val Arg Val Arg Gly Ala Glu Thr Gly Leu Tyr Ile Cys Met Asn Lys 100 105 110	336
aag ggg aag ctg atc gcc aag agc aac ggc aaa ggc aag gac tgc gtc Lys Gly Lys Leu Ile Ala Lys Ser Asn Gly Lys Gly Lys Asp Cys Val 115 120 125	384
ttc acg gag att gtg ctg gag aac aac tac aca gcg ctg cag aat gcc Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Leu Gln Asn Ala 130 135 140	432
aag tac gag ggc tgg tac atg gcc ttc acc cgc aag ggc egg ccc cgc Lys Tyr Glu Gly Trp Tyr Met Ala Phe Thr Arg Lys Gly Arg Pro Arg 145 150 155 160	480
aag ggc tcc aag acg cgg cag cac cag cgt gag gtc cac ttc atg aag Lys Gly Ser Lys Thr Arg Gln His Gln Arg Glu Val His Phe Met Lys 165 170 175	528
egg etg eec egg gge eac eac ace ace gag eag age etg ege tte gag	s 576

Arg Leu Pro Arg Gly His His Thr Thr Glu Gln Ser Leu Arg Phe Glu 180 185 190	
ttc ctc aac tac ccg ccc ttc acg cgc agc ctg cgc ggc agc cag agg Phe Leu Asn Tyr Pro Pro Phe Thr Arg Ser Leu Arg Gly Ser Gln Arg 195 200 205	624
act tgg gcc ccg gaa ccc cga Thr Trp Ala Pro Glu Pro Arg 210 215 <210> 65 <211> 212 <212> PRT	645
<213> Homo sapiens <400> 65 Met Asp Tyr Leu Leu Met Ile Phe Ser Leu Leu Phe Val Ala Cys Gln 1 1 5 10 15 15 15 10 15 10 15 10 15 10 15 10 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10<	,
Gly Ala Pro Glu Thr Ala Val Leu Gly Ala Glu Leu Ser Ala Val Gly 20 25 30 Glu Asn Gly Gly Glu Lys Pro Thr Pro Ser Pro Pro Trp Arg Leu Arg	
Arg Ser Lys Arg Cys Ser Cys Ser Ser Leu Met Asp Lys Glu Cys Val	
50 55 55 Tun Pho Cys His Leu Asp Ile Ile Trp Val Asn Thr Pro Glu His Val	
65 70 75  Vol Pro Tyr Gly Leu Gly Ser Pro Arg Ser Lys Arg Ala Leu Glu Asn	
Leu Leu Pro Thr Lys Ala Thr Asp Arg Glu Asn Arg Cys Gln Cys Ala	

105

100

Ser Gln Lys Asp Lys Lys Cys Trp Asn Phe Cys Gln Ala Gly Lys Glu 115 120 125	
Leu Arg Ala Glu Asp Ile Met Glu Lys Asp Trp Asn Asn His Lys Lys 130 135 140	
Gly Lys Asp Cys Ser Lys Leu Gly Lys Lys Cys Ile Tyr Gln Gln Leu 145 150 155 160	
Val Arg Gly Arg Lys Ile Arg Arg Ser Ser Glu Glu His Leu Arg Gln 165 170 175	
Thr Arg Ser Glu Thr Met Arg Asn Ser Val Lys Ser Ser Phe His Asp 180 185 190	
Pro Lys Leu Lys Gly Lys Pro Ser Arg Glu Arg Tyr Val Thr His Asn 195 200 205	
Arg Ala His Trp 210 <210> 66 <211> 636 <212> DNA <213> Homo sapiens	
<220> <221> CDS	
<pre>&lt;223&gt; (1). (639) &lt;400&gt; 66 atg gat tat ttg ctc atg att ttc tct ctg ctg ttt gtg gct tgc caa 48 Met Asp Tyr Leu Leu Met Ile Phe Ser Leu Leu Phe Val Ala Cys Gln 1 5 10 15</pre>	3
gga get eea gaa aca gea gte tta gge get gag ete age geg gtg ggt 9	6

30

Gly Ala Pro Glu Thr Ala Val Leu Gly Ala Glu Leu Ser Ala Val Gly

20

gag : Glu :	aac Asn	ggc Gly 35	ggg Gly	gag Glu	aaa Lys	ecc : Pro	act ( Thr 1 40	ecc a Pro l	agt ( Ser 1	cca Pro	ccc Pro	tgg Trp 45	cgg Arg	ctc Leu	Arg		144
cgg Arg	tcc Ser 50	aag Lys	cgc Arg	tgc Cys	tcc Ser	tgc Cys 55	tcg Ser	tcc Ser	ctg Leu	atg Met	gat Asp 60	aaa Lys	gag Glu	tgt Cys	gt. Va	_	192
tac Tyr 65	ttc Phe	tgc Cys	cac His	ctg Leu	gac Asp 70	atc Ile	att Ile	tgg Trp	gtc Val	aac Asn 75	act Thr	ccc Pro	gag Glu	cac	V Q	t .1 80	240
gtt Val	ccg Pro	tat Tyr	gga Gly	ctt Leu 85	Gly	agc Ser	cct Pro	agg Arg	tee Ser 90	aag Lys	aga Arg	gcc Ala	ttg Leu	gag G10	ı As	nt sn	288
tta Leu	ctt	ccc Pro	aca Thr	Lys	gca Ala	aca Thr	gac Asp	cgt Arg 105	gag Glu	aat Asr	aga Arg	tgo g Cys	caa Glr	LOy	t go	ct la	336
agc Ser	caa Gli	a aaa n Lys	a gad s Asj	e aag p Lys	g aag s Lys	tgc Cys	tgg Trp 120	Asn	ttt Phe	tge Cy:	caa s Gli	a gca n Ala 12	a GI	a aa y Ly	ag sG	aa lu	384
cto	e ag. 1 Ar 13	g Al	t ga a Gl	a ga u As	c att	t atg e Met	t Glu	g aaa 1 Lys	a gad s Asj	e tg p Tr	g aa p As 14	n As	t ca n Hi	t aa s Ly	ıg a vs I	laa Lys	432
gg: G1; 14	y Ly	a ga s As	ic tg sp Cy	t to s Se	c aa r Ly 15	s Le	t gg u Gl	g aaa y Lys	a aa; s Ly	g tg s Cy 15	'S II	t ta e Ty	at ca vr Gl	ig ca In G	111 2	tta Leu 160	480
gt Va	g ag .1 Ai	ga gg rg G	ga ag ly Ai	g Ly	na at 7s Il 85	c ag e Ar	a ag g Ar	a ag g Se	t to r Se 17	er G.	ng ga lu Gi	aa ca lu H	ac ct is Le	eu n	ga rg 75	caa Gln	528

acc Thr	agg Arg	tcg Ser	gag Glu 180	acc Thr	atg Met	aga Arg	aac Asn	agc Ser 185	gtc Val	aaa Lys	tca Ser	tct Ser	ttt Phe 190	cat His	gat Asp	576
ccc Pro	aag Lys	ctg Leu 195	aaa Lys	ggc Gly	aag Lys	ccc Pro	tcc Ser 200	aga Arg	gag Glu	cgt Arg	tat Tyr	gtg Val 205	acc Thr	cac His	aac Asn	624
Arg <210		His 7	tgg Trp													636
<21		omo	sapi	ens												
<40 Met		His	Arg	; Gl3		e Leu	Leu	Let	t Thr	Leu )	Lev	ı Ala	. Let	Let 15	ı Ala	<b>3.</b>
Leu	Thr	Ser	• Ala 20		l Ala	ı Lys	Lys	Ly:	s Ası	o Lys	s Vai	l Ly:	s Ly:	s G1;	y Gl	у
Pro	Gly	z Sei 3!		1 Су	s Ala	a Glu	ı Tr <u>ı</u> 4(		a Tr	p Gl	y Pr	o Cy 4	s Th	r Pr	o Se	r
Sei	Ly:		р Су	s Gl	y Va	1 G1; 5		e Ar	g Gl	u Gl	y Th 6	r Cy O	s Gl	y Al	a Gl	n
Th:		n Ar	g Il	e Ar		s Ar O	g Va	l Pr	ю Су	s As	n Tr 5	p Ly	s Ly	s Gl	u Pl	1e 30
G1	y Al	a As	ар Су		7s Ty 35	r Ly	s Ph	e G]	lu As	sn Tr 90	p G	[y A]	la Cy	s As	sp G 95	ly
Gl	y Th	ır G]	ly Th		ys Va	al Ar	g Gl	n G	ly Tl 05	nr Le	eu L	ys L	ys Al	la A: 10	rg T	yr

Asn	Ala	Gln 115	Cys	Gln	Glu '		le A 120	drg '	Val '	[hr ]	Lys	Pro C 125	ys (	fhr P	'r0	
Lys	Thr 130	Lys	Ala	Lys		Lys <i>i</i> 135	Ala 1	Lys :	Lys	Gly :	Lys 140	Gly I	Jys ,	Asp		
	)> 68															
<21.	1> 42	29									,					
_	2> DI												1			
		omo :	sapi	ens					,		,					
	0> .															
	1> C		/ 490	`												
		1)	(434	,							•			,		
<40	0> 6	ດ ຕາລຕ	<b>്</b> മ	a a c	ttc	ctc	ctc	ctc	acc	ctc	ctc	gcc	ctg	ctg	gcg	48
aus Mat	GIn	His	Arg	Gly	Phe	Leu	Leu	Leu	Thr	Leu	Leu	Ala	Leu	Leu	Ala	
1			0	5					10					15		
cto	acc	tec	gce	gto	gcc	aaa	aag	aaa	gat	aag	gtg	aag	aag	ggc	ggc	96
Leu	ı Thr	Ser	· Ala	ı Val	Ala	Lys	Lys	Lys	Asp	Lys	Val	Lys	ГÀS	gry.	GLY	
			20					25					30			
							,		A			+ 40	200	ccc	age	144
ccs	g ggs	gago	gag	g tgo	get	gag	tgg	gcc	Tgg	ggg	Dno	tgc	Thr	Pro	Ser	111
Pro	o Gl			u Cy:	s Ala	ı Glu	Trp	Ala	, irp	o gly	rrc	Cys 45	1 141		•••	
		3	Ō				40					10				
					+.	- ~~+	++0	e e e e	. <b>ଟ</b> ର୍ଚ	r øø(	a acc	e tge	ggg	gcc	cag	192
ag	c aa	g ga	t tg	c gg	c gua v Voj	5 85 4 1 61 v	Phe	Are	r Gli	ı Glv	7 Th	r Cys	Gly	, Ala	Gln	
Se			b cy	S at	y va.	55	i	, ,,,,	,		6	0				
	Э	0				00	,									
•		് നെ	r at	.c. cg	g tø	c age	ggts	g cc	c tg	c aa	c tg	g aag	; aag	g gag	ttt	240
ፈር ጥኑ	ic ca in Cl	ıg ∪a n Δr	o II	e Ar	e Cv	s Arg	v Va.	l Pro	о Су	s As	n Tr	p Lys	Ly:	s Glu	Phe	
	11. gr	.11 131	Þ .,	***	7		-			7	5				80	
·	, ,															
					_ +-		~ ++	t ora	ฮ ลล	c tø	გ გგ	t go	g tg	t gat	t ggg	288

gga gcc gac tgc aag tac aag ttt gag aac tgg ggt gcg tgt gat ggg

Gly Ala Asp Cys Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly

85

90

;81355613956

95

95

ggc Gly	aca Thr	ggc Gly	acc Thr 100	aaa Lys	gtc Val	cgc Arg	caa Gln	ggc Gly 105	acc Thr	ctg Leu	aag Lys	aag Lys	gcg Ala 110	cgc Arg	tac Tyr	336
aat Asn	gct Ala	cag Gln 115	tgc Cys	cag Gln	gag Glu	acc Thr	atc Ile 120	cgc Arg	gtc Val	acc Thr	aag Lys	ccc Pro 125	tgc Cys	acc Thr	ccc Pro	384
Lys	Thr 130	Lys	gca Ala	aag Lys	gcc Ala	aaa Lys 135	gcc Ala	aag Lys	aaa Lys	ggg Gly	aag Lys 140	GIY	aag Lys	gac Asp	: •	429
	0> 6 1> 4					,										
	1> 4 2> P															
			sapi	ens												
<40	0> 6	9										<b>T</b> 1	. 0	- 01,	o Vo	1
		Pro	Gly	7 Asn 5		g Met	: Leu	ı Me	t Val 11	l Vad D	Let	ı Lei	ı Cys	1!	n va 5	1
1				ز	,				•	•						
Le	ı Let	ı Gly	y G1; 20		a Sei	r His	s Ala	a Se 2	r Le <sup>.</sup> 5	u Ile	e Pro	o Gl	u Th	r Gl O	у Lу	S
Ly	s Ly	s Va 3		a Gl	ı Il	e Gli	n G1 4	y Hi O	s Al	a Gl	y Gl	y Ar 4	g Ar 5	g Se	r Gl	.y
G1		r Hi O	s Gl	u Le	u Le	u Ar 5	g As 5	p Ph	ie Gl	u Al	a Th	r Le 80	u Le	eu Gl	n Me	et
	ie Gl 55	y Le	eu Ar	g Ar		g Pr 70	o G]	ln Pi	ro Se	er Ly	7s Se 75	er Al	la Va	al II	le P	ro 80
As	зр Ту	r Me	et Ar	ng As	sp Le	eu Ty	r Ai	rg L	eu G	ln Se	er G	ly G	lu G	lu G	lu G 95	lu

85

- Glu Gln Ile His Ser Thr Gly Leu Glu Tyr Pro Glu Arg Pro Ala Ser 100 105 110

  Arg Ala Asn Thr Val Arg Ser Phe His His Glu Glu His Leu Glu Asn 115 120 125
- Ile Pro Gly Thr Ser Glu Asn Ser Ala Phe Arg Phe Leu Phe Asn Leu 130 135 140
- Ser Ser Ile Pro Glu Asn Glu Ala Ile Ser Ser Ala Glu Leu Arg Leu 145 150 155 160
- Phe Arg Glu Gln Val Asp Gln Gly Pro Asp Trp Glu Arg Gly Phe His 165 170 175
- Arg Ile Asn Ile Tyr Glu Val Met Lys Pro Pro Ala Glu Val Val Pro 180 185 190
- Gly His Leu Ile Thr Arg Leu Leu Asp Thr Arg Leu Val His His Asn 195 200 205
- Val Thr Arg Trp Glu Thr Phe Asp Val Ser Pro Ala Val Leu Arg Trp 210 215 220
- Thr Arg Glu Lys Gln Pro Asn Tyr Gly Leu Ala Ile Glu Val Thr His 225 230 235 240
- Leu His Gln Thr Arg Thr His Gln Gly Gln His Val Arg Ile Ser Arg 245 250 255
- Ser Leu Pro Gln Gly Ser Gly Asn Trp Ala Gln Leu Arg Pro Leu Leu 260 265 270
- Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg Arg 275 280 285

Arg	Ala 290	Lys	Arg	Ser	Pro	Lys 295	His	His	Ser	Gln	Arg 300	Ala	Arg	Lys	Lys
	200														

Asn Lys Asn Cys Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val 320 315 310 305

Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr 335 330 325.

Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr 350 -345 340

Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile 365 360 355

Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu 380 375 370

Tyr Leu Asp Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met 400 395 390 385

Val Val Glu Gly Cys Gly Cys Arg 405

<210> 70

<211> 1224

<212> DNA

<213> Homo sapiens

<220>

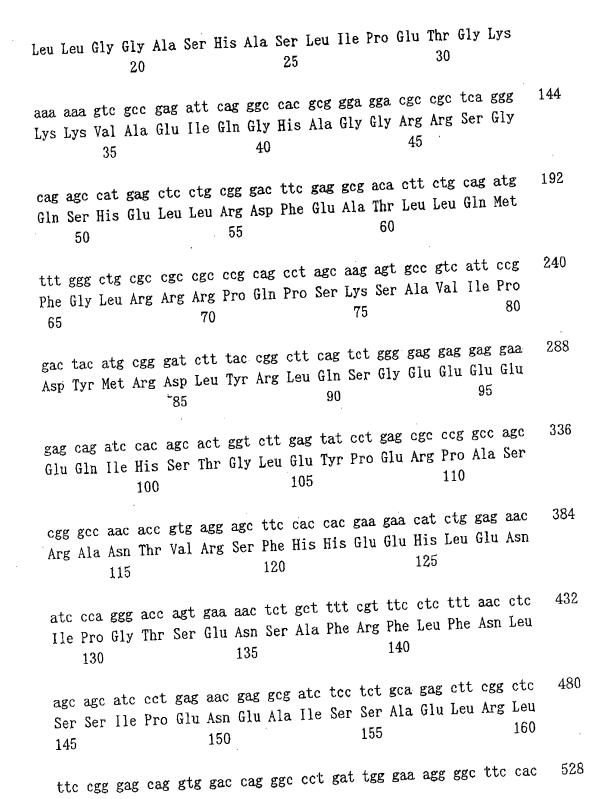
<221> CDS

<223> (1)..(1227)

<400> 70

atg att cct ggt aac cga atg ctg atg gtc gtt tta tta tgc caa gtc Met Ile Pro Gly Asn Arg Met Leu Met Val Val Leu Leu Cys Gln Val 15 10 5 1

ctg cta gga ggc gcg agc cat gct agt ttg ata cct gag acg ggg aag 96



Phe Arg Glu Gln Val Asp Gln Gly Pro Asp Trp Glu Arg Gly Phe His 165 170 175	
cgt ata aac att tat gag gtt atg aag ccc cca gca gaa gtg gtg cct Arg Ile Asn Ile Tyr Glu Val Met Lys Pro Pro Ala Glu Val Val Pro 180 185 190	576
ggg cac ctc atc aca cga cta ctg gac acg aga ctg gtc cac cac aat Gly His Leu Ile Thr Arg Leu Leu Asp Thr Arg Leu Val His His Asn 195 200 205	624
gtg aca cgg tgg gaa act ttt gat gtg agc cct gcg gtc ctt cgc tgg Val Thr Arg Trp Glu Thr Phe Asp Val Ser Pro Ala Val Leu Arg Trp 210 215 220	672
acc cgg gag aag cag cca aac tat ggg cta gcc att gag gtg act cac Thr Arg Glu Lys Gln Pro Asn Tyr Gly Leu Ala Ile Glu Val Thr His 235 230 235 240	720
ctc cat cag act cgg acc cac cag ggc cag cat gtc agg att agc cga Leu His Gln Thr Arg Thr His Gln Gly Gln His Val Arg Ile Ser Arg 245 250 255	768
tcg tta cct caa ggg agt ggg aat tgg gcc cag ctc cgg ccc ctc ctg Ser Leu Pro Gln Gly Ser Gly Asn Trp Ala Gln Leu Arg Pro Leu Leu 260 265 270	816
gtc acc ttt ggc cat gat ggc cgg ggc cat gcc ttg acc cga cgc cgg Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg Arg 275 280 285	864
agg gcc aag cgt agc cct aag cat cac tca cag cgg gcc agg aag aag Arg Ala Lys Arg Ser Pro Lys His His Ser Gln Arg Ala Arg Lys Lys 290 295 300	912
aat aag aac tgc cgg cgc cac tcg ctc tat gtg gac ttc agc gat gtg	960



Asn Lys Asn Cys Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val 305 310 315 320	
ggc tgg aat gac tgg att gtg gcc cca cca ggc tac cag gcc ttc tac Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr 325 330 335	1008
tgc cat ggg gac tgc ccc ttt cca ctg gct gac cac ctc aac tca acc Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr 340 345 350	1056
aac cat gcc att gtg cag acc ctg gtc aat tct gtc aat tcc agt atc Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile 355 360 365	1104
ccc aaa gcc tgt tgt gtg ccc act gaa ctg agt gcc atc tcc atg ctg Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu 370 375 380	1152
tac ctg gat gag tat gat aag gtg gta ctg aaa aat tat cag gag atg Tyr Leu Asp Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met 385 390 395 400	1200
gta gta gag gga tgt ggg tgc cgc Val Val Glu Gly Cys Gly Cys Arg 405	1224
<210> 71 <211> 24 <212> DNA	·
<213> Artificial Sequence <400> 71 gcccgcgctc caactgctct gatg	24
<210> 72 <211> 24 <212> DNA	

<213> Artificial Sequence <400> 72 tgcctacggt ggtgcgccct ctgc		24
<210> 73 <211> 22 <212> DNA <213> Artificial Sequence <400> 73 gaagcgcaac agggccatca cg		22
<210> 74 <211> 22		
<212> DNA <213> Artificial Sequence <400> 74 ccacgtcacg caggtcccgt tc		22
<210> 75 <211> 22 <212> DNA		
<213> Artificial Sequence <400> 75 gatectgtte tetgeetetg ga		22
<210> 76 <211> 22		
<212> DNA <213> Artificial Sequence <400> 76 tcatccactt tgtccacccg ag		22
<210> 77 <211> 21 <212> DNA <213> Artificial Sequence		

I I B II that and and I in the and J' Herriche of Herriches and the track and the track and

•

<400> 77	21
ttcctcgtct tggccttttg g	
<210> 78	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<400> 78	21
gctggatctt cgtaggctcc g	
<210> 79	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<400> 79	19
ggcaagetga eeetgaagt	
<210> 80	
<211> 19	
<212> DNA <213> Artificial Sequence	
<400> 80	19
gogtgeteag gtagtggtt	